

CORNELL UNIVERSITY OFFICIAL PUBLICATION

Volume XXIII

Number 13

Announcement of the New York State Veterinary College for 1932-33

Ithaca, New York
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February 15, 1932

THE UNIVERSITY CALENDAR FOR 1932-33

1932

FIRST TERM

Sept. 19,	<i>Monday,</i>	Entrance examinations begin.	
Sept. 26,	<i>Monday,</i>	Registration and assignment of old students.	}
Sept. 27,	<i>Tuesday,</i>		
Sept. 27,	<i>Tuesday,</i>	Registration and assignment of new students.	}
Sept. 28,	<i>Wednesday,</i>		
Sept. 29,	<i>Thursday,</i>	Instruction begins at 8 A. M.	
Oct. 21,	<i>Friday,</i>	Last day for payment of tuition for the first term.	
Nov. 23,	<i>Wednesday,</i>	Instruction ends at 6 P. M.	} Thanksgiving Recess
Nov. 28,	<i>Monday,</i>	Instruction resumed at 8 A. M.	
Dec. 17,	<i>Saturday,</i>	Instruction ends at 1 P. M.	} Christmas Recess
	¹⁹³³	Instruction resumed at 8 A. M.	
Jan. 2,	<i>Monday,</i>	Founder's Day.	
Jan. 11,	<i>Wednesday,</i>	Instruction ends.	
Jan. 28,	<i>Saturday,</i>	Term examinations begin.	
Jan. 30,	<i>Monday,</i>	Term ends.	
Feb. 8,	<i>Wednesday,</i>	A holiday.	
Feb. 9,	<i>Thursday,</i>		

SECOND TERM

Feb. 10,	<i>Friday,</i>	Registration of all students.	
Feb. 13,	<i>Monday,</i>	Instruction begins at 8 A. M.	
Mar. 6,	<i>Monday,</i>	Last day for payment of tuition for the second term.	
April 1,	<i>Saturday,</i>	Instruction ends at 1 P. M.	} Spring Recess
April 10,	<i>Monday,</i>	Instruction resumed, 8 A. M.	
May 27,	<i>Saturday,</i>	Spring Day: a holiday.	
June 5,	<i>Monday,</i>	Term examinations begin.	
June 13,	<i>Tuesday,</i>	End of term examinations.	
June 19,	<i>Monday,</i>	COMMENCEMENT.	

NEW YORK STATE VETERINARY COLLEGE

FACULTY

LIVINGSTON FARRAND, A.B., M.D., L.H.D., LL.D., President of the University.
ALBERT RUSSELL MANN, B.S.A., A.M., D.Sc., D.Agr., LL.D., Provost of the University.

SIMON HENRY GAGE, B.S., Professor of Histology, Emeritus.

WALTER LONG WILLIAMS, Professor of Obstetrics, and Research Professor in the Diseases of Breeding Cattle, Emeritus.

GRANT SHERMAN HOPKINS, D.Sc., D.V.M., Professor of Veterinary Anatomy and Anatomical Methods.

DENNIE HAMMOND UDALL, B.S.A., D.V.M., Professor of Veterinary Medicine and Hygiene.

HOWARD JAY MILKS, D.V.M., Professor of Therapeutics and Small Animal Clinic.

JAMES NATHAN FROST, D.V.M., Professor of Veterinary Surgery.

RAYMOND RUSSELL BIRCH, B.S.A., Ph.D., D.V.M., Superintendent of the Veterinary Experiment Station.

WILLIAM ARTHUR HAGAN, M.S., D.V.M., Professor of Bacteriology.

EARL SUNDERVILLE, D.V.M. Assistant Professor of Veterinary Anatomy, Secretary of the Faculty, and Chairman of the Administration Committee.

CHARLES ERNEST HAYDEN, A.B., D.V.M., Professor of Veterinary Physiology.

HENRY ASMUS, Assistant Professor of Horseshoeing.

JAMES WILLIAM BENNER, M.S., D.V.M., Assistant Professor of Special Research in Animal Diseases.

HERBERT LESTER GILMAN, M.S., Ph.D., D.V.M., Assistant Professor of Research.

HADLEY CARRUTHERS STEPHENSON, B.S., D.V.M., Assistant Professor of Materia Medica.

MYRON GUSTIN FINCHER, M.S., D.V.M., Assistant Professor of Medicine and Obstetrics.

JOHN M. HENDRICKSON, M.S., D.V.M., Assistant Professor of Poultry Research.

EARL LOUIS BRUNETT, M.S., D.V.M., Assistant Professor of Poultry Diseases.

PETER OLAFSON, D.V.M., Assistant Professor of Pathology.

ALEXANDER ZEISSIG, D.V.M., M.S., Ph.D., Assistant Professor in Investigation.

WALTER JOSEPH GIBBONS, D.V.M., M.S., Instructor in Medicine and Obstetrics.

KENNETH FRANKLIN HILBERT, D.V.M., Instructor in Poultry Investigation.

DONALD WYCKOFF BAKER, B.S.A., D.V.M., Instructor in Diagnosis.

JESSE SAMPSON, B.S., D.V.M., Instructor in Veterinary Physiology.

SETH DARWIN JOHNSON, D.V.M., Instructor in Research.

CARLTON CASE ELLIS, M.S., D.V.M., Instructor in Poultry Investigation.

WILLIAM MAXWELL THOMSON, D.V.M., M.S., Instructor in Research.

BURNARD JAMES ERRINGTON, D.V.M., Instructor in Surgery.

CLIFFORD HOWARD MILKS, D.V.M., M.S., Instructor in Research.

HUGH STEWART CAMERON, D.V.M., Instructor in Research.

CLIFFORD WARREN BARBER, D.V.M., Instructor in Pathology.

DORSEY BRUNER, B.S., Instructor in Investigation of Diseases.

BERTRAM LUCIUS HUGHES, A.B., M.A., Instructor in English.

MAURICE EDWARD JOSEPH EVANS, Assistant in Diagnosis.

DOUGLAS BELDEN CRANE, D.V.M., Assistant in Materia Medica.

CAROLYN DATES, Technician.

ARTHUR GORDON DANKS, B.S., Student Assistant in Physiology.

PINCUS PHILIP LEVINE, M.S., Student Assistant in Bacteriology.

HENRY ROHRER MILLER, B.S., Student Assistant in Anatomy.

FLOYD KARKER RICHTMYER, Ph.D., Dean of the Graduate School.

FRANK BARRON MORRISON, B.S., M.S. in Agr., Professor of Animal Husbandry.

ELMER SETH SAVAGE, Ph.D., Professor of Animal Husbandry.
 MERRITT WESLEY HARPER, B.S., MS., Professor of Animal Husbandry.
 BENJAMIN FREEMAN KINGSBURY, Ph.D., M.D., Professor of Histology and Embryology.
 ANDREW J. RAMSEY, Instructor in Histology and Embryology.
 REYNOLD L. BEAN, Student Assistant in Histology and Embryology.
 CHARLES F. GREEN, Student Assistant in Histology and Embryology.
 ROBERT A. MUELLER, Assistant in Histology and Embryology.
 ROBERT BYRON HINMAN, Ph.D., Professor of Animal Husbandry.
 HAROLD ELLIS ROSS, B.S.A., M.S. in Agr., Professor of Dairy Industry.
 EDWARD S. GUTHRIE, Ph.D., Professor of Dairy Industry.
 BENJAMIN PERCY YOUNG, Ph.D., Assistant Professor of Zoology.

THE STATE COLLEGE COUNCIL

President FARRAND, *Chairman*; Provost A. R. MANN, Trustees J. DUPRATT WHITE, STANTON GRIFFIS, MYRON C. TAYLOR, PETER G. TEN EYCK, GEORGE R. VAN NAMEE, HORACE WHITE, FRANK P. GRAVES, HOWARD E. BABCOCK, BERNE A. PYRKE, CHARLES H. BALDWIN, MARY M. CRAWFORD, JARED T. NEWMAN; Dean CORNELIUS BETTEN, Dean ———, Director ULYSSES P. HEDRICK; and Professors GRANT S. HOPKINS, LOUIS M. MASSEY, FRANK B. MORRISON, and MARTHA VAN RENSSELAER.

LECTURERS IN 1931-32

Dr. Burt Cady, *Federal Bureau, Albany*; Dr. R. R. Dykstra, *Dean of the Veterinary College, Manhattan, Kansas*; Mr. E. A. Flansburg, *Assistant County Agent Leader, Ithaca*; G. J. Hucker, *Chief in Research, Division of Bacteriology, Geneva Experiment Station, Geneva*; Dr. Harry Millar, *Practitioner, Asbury Park, New Jersey*; Dr. H. J. Miller, *Practitioner, Mamaroneck*; Berne A. Pyrke, *Commissioner of Agriculture and Markets, Albany*; Dr. L. J. Tompkins, *Sheffield Farms Co., New York City*; Major Robert E. Treman, *Trustee, Cornell University, Ithaca*; Dr. H. W. Turner, *Pennsylvania Bureau of Animal Industry, Harrisburg, Pennsylvania*; Dr. W. L. Williams, *Emeritus Professor, Ithaca*; Prof. L. P. Wilson, *Professor of Law, Cornell University, Ithaca*.

DIRECTORY OF THE COLLEGE

Unless indicated otherwise, the office is in the main building of the Veterinary College.

President of the University, Morrill Hall.
 Dean of the Veterinary College, first floor, south wing.
 Asmus, Henry, Assistant Professor, Surgical Building.
 Baker, D. W., Instructor, first floor, south wing.
 Barber, C. W., Instructor, third floor southeast.
 Benner, J. W., Assistant Professor, Experiment Station Farm.
 Birch, R. R., Professor, Room 1, first floor southwest.
 Bruner, Dorsey, Instructor, third floor northwest.
 Brunett, E. L., Assistant Professor, third floor northeast.
 Cameron, H. C., Instructor, second floor south.
 Crane, D. B., Assistant, Small Animal Building.
 Dates, Carolyn, Technician, Room 18, third floor.
 Ellis, C. C., Instructor, third floor northeast.
 Errington, B. J., Instructor, Room 2, first floor southeast.
 Evans, W. M., Assistant, first floor, south wing.
 Fincher, M. G., Assistant Professor, Medical Building.
 Frost, J. N., Professor, Room 2, third floor southeast.
 Gibbons, W. J., Instructor, Medical Building.
 Gilman, H. L., Assistant Professor, second floor south.

Hagan, W. A., Professor, third floor northwest.
 Hayden, C. E., Professor, Room 4, first floor northeast.
 Hopkins, G. S., Professor, Room 12, second floor northeast.
 Hughes, B. L., Instructor.
 Johnson, S. D., Instructor, Medical Building.
 Milks, C. H., Instructor, second floor south.
 Milks, H. J., Professor, Small Animal Building.
 Olafson, P., Assistant Professor, third floor southeast.
 Sampson, J., Instructor, second floor northwest.
 Stephenson, H. C., Assistant Professor, Small Animal Building.
 Sunderville, E., Assistant Professor, Room 3, first floor northwest.
 Udall, D. H., Professor, Medical Building.
 Zeissig, A., Assistant Professor, third floor southwest.

Clerk of the College, H. H. Haight, first floor, south wing.
 Librarian, Miss E. C. Williams, Room 9, second floor southeast.
 Stenographer and Secretary to the Dean, Mable Howell, south wing.
 Stenographer and Clerk, Arlene P. Mowry, Clinical Buildings.
 Stenographer and Clerk, Agnes Sullivan, first floor southwest.
 Assistant Clerk, Elsie A. Brown, first floor south wing.
 Machinist, Archie Wilson, basement.
 Groom, W. C. Selover, Cottage east of Main Building.
 Groom, George Willis, Medical Building.
 Groom, George F. Schneider, Small Animal Building.
 Assistant Groom, C. A. Sutton, Surgical Building.
 Teamster, Henry Fatula, Medical Building.
 Attendant, Thad Brown, south wing.
 " Thomas Merrill, north wing.
 " I. H. Everts, third floor.
 " Thomas Nuttall, Surgical Building.
 " Ira Fowler, Experiment Station.
 " A. B. Newman, Experiment Station.
 " Ray Newman, Experiment Station.
 " A. Ross, Experiment Station.
 " D. J. Nedrow, Experiment Station.

THE FOUNDATION OF THE COLLEGE

The New York State Veterinary College was established by act of the State Legislature in 1894: "There is hereby established a State Veterinary College at Cornell University," Laws of New York, 1894, p. 307. By action of the Board of Trustees of Cornell University, June 10, 1894, the location of the College upon the University campus was authorized. It was further enacted that while the University does not undertake any financial responsibility for the buildings, equipment, or maintenance of the College, it does consent to furnish instruction upon such subjects as are or shall be in its curriculum, upon such terms as may be deemed equitable.

By further acts of the Legislature provision was made for the buildings, equipment, and maintenance of the College, and finally, in 1897, by "An act to provide for the administration of the State Veterinary College, established by Chapter 153 of the laws of 1894," the Trustees of Cornell University were intrusted with its administration.

OBJECTS OF THE INSTITUTION

As stated in the act to provide for the administration of the State Veterinary College: "The State Veterinary College, established by Chapter 153 of the laws of 1894, shall be known as the New York State Veterinary College. The object of said Veterinary College shall be: To control investigations as to the nature, prevention, and cure of all diseases of animals, including such as are communicable to man and such as cause epizootics among live stock; to investigate the economic questions which will contribute to the more profitable breeding, rearing, and utilization of animals; to produce reliable standard preparations of toxins, antitoxins, and other productions to be used in diagnosis, prevention, and cure of diseases, and in the conducting of sanitary work by approved modern methods; and to give instruction in the normal structure and function of the animal body, in the pathology, prevention, and treatment of animal diseases, and in all matters pertaining to sanitary science as applied to live stock and correlatively to the human family."

The New York State Veterinary College was therefore founded to raise the standards of veterinary investigation and instruction to the level of the most recent advances in biology and medicine. According to the thirteenth census of the United States (1925), the number of farm animals in the State, exclusive of poultry and pet animals, was 3,146,000 of the value of \$181,834,000. This gives some idea of the great financial interest at stake in the matter of live stock. The latest census report for 1925 gives the value of the live stock of the United States on farms exclusive of poultry and pet animals at \$4,689,576,000. The value of poultry in New York State is \$13,409,000. Another consideration is that the normal permanent fertilization of the soil is dependent upon the live stock kept, and that where there is a deficiency of animals, the productiveness of the land is steadily exhausted; therefore, the health and improvement of animals and the fostering of animal industry lie at the very foundation of our national wealth. Another and no less potent argument for the higher standard of veterinary education is its influence on the health of the human race. With a long list of communicable diseases which are common to man and beast, it is to the last degree important that measures for the extinction of such contagion in our live stock should receive the best attention of the most highly trained experts.

To justify the liberality of the State in creating this seat of learning, it is the aim of the College to train thoroughly a class of veterinarians for dealing with all diseases and defects that depreciate the value of our live stock, and with the causes that give rise to them. It further aims, as far as it has the means and opportunity, to maintain a center of investigation looking toward discoveries in the nature

of diseases, in therapeutics, and in the immunization of animals from contagion; and toward the production of biological products to be employed in diagnosis, treatment, and immunization. So much has been discovered recently in these directions and present knowledge points so unmistakably to coming discoveries, that to neglect this field at the present time would be very unfortunate. Apart from discovery, the mere production of reliable diagnostic and therapeutic biological products is of great economic importance. Furthermore, it is the purpose of the College to be of as much assistance as possible to the practitioners of veterinary medicine.

The combination in one institution of educational facilities with scientific investigation, and the production of vaccines and serums to be employed in modern medical methods, are features that insure the best work in all departments, and the most exceptional advantages for the diligent student.

SITUATION

The New York State Veterinary College is situated at Ithaca, a city of 21,000 population, at the head of Cayuga Lake, 263 miles from New York City, on the Lehigh Valley and Lackawanna Railroads. The college buildings are near the center of the campus of Cornell University. The main line of the Ithaca street railway system crosses the campus on East Avenue, almost immediately in front of the college.

BUILDINGS

JAMES LAW HALL (THE MAIN BUILDING), 142 feet long by 42 feet wide and three stories high, overlooks East Avenue and an intervening park of 300 feet by 220 feet. The walls are of buff pressed brick, on a base of Gouverneur marble; window and door facings are of Indiana limestone and terra cotta ornamentations. On the first floor are the museum and the offices of the professors of physiology and surgery, of the secretary of the college, and of the superintendent of the Experiment Station. The second floor contains the Experiment Station Laboratory, a laboratory of physiology and urine analysis, seminar room, and office of the professor of anatomy. On the third floor are the offices and the laboratories of pathology and bacteriology.

Connected with the main building and forming its north wing, is a structure 90 feet long by 40 feet wide and two stories high. Its floors are of impermeable cement. This wing contains the anatomical laboratories and the lecture room of anatomy, physiology, and surgery. A similar wing projects from the south end of the main building. On the first floor are the Faculty Room, Dean's office, business offices, a diagnosis laboratory, and an amphitheater with seating capacity for 318. It is provided with a good moving picture machine

and balopticon. On the second floor is the library with spacious reading rooms.

THE SMALL ANIMAL BUILDING is 70 feet long by 44 feet wide and three stories high. This building is fireproof, well lighted, and provided with modern plumbing. On the first floor are the waiting room, janitor's room, drug and instrument room, operating room with modern equipment, and general ward containing twenty-two kennels. The kennels are well lighted, roomy, well drained, and separated from each other by marble partitions. Besides these rooms there is a ward for infectious diseases which is entirely separated from the rest of the building. The second floor contains the offices and private laboratories for the Department of Materia Medica and Small Animal Clinic, small wards for skin diseases, eye diseases, quarantine wards, and wards for cats, making a total number of forty-two kennels. On the third floor are the lecture room, museum, research laboratory, and students' laboratory for materia medica and pharmacy.

THE MEDICAL BUILDING is three stories high, and 160 feet long by 44 feet wide on the ground. The ground floor contains a clinic hall, drug room, physical examination room, elevator, office, wards for large animals, and a garage for the ambulatory clinic. The first floor above, 100 feet long by 44 feet wide with a side extension for the lecture room, contains wards for patients, lecture room, museum room, photographic room, offices, and research and student laboratories. The third floor contains living rooms for the groom, the student assistants, and the internes, and a large laboratory. The attic contains vermin-proof grain bins, and a storage room for hay, and communicates with the wards by means of vertical shafts. The stalls are built of iron and quartered oak, communicating with wide corridors for the accommodation of classes. The building is of modern construction; it is well lighted, fireproof, and heated throughout with steam; it has a modern system of plumbing and ventilation, and all animal wards are perfectly aired through large vertical shafts.

THE SURGICAL BUILDING, 70 feet long by 44 feet wide and three stories high, is of the same type of construction as the Small Animal building. On the ground floor are an isolation ward, horse and cattle wards, and a demonstration hall. These form a part of the clinical plant of the College. The floor above is fully equipped for the teaching of horseshoeing. It contains forges, shoeing stocks, laboratory desks, and other equipment equal to that of the leading continental schools. The third floor is used for classrooms and a museum.

THE SURGICAL WARD, 100 feet long by 31 feet wide, and two stories high, is furnished with box and other stalls, heating apparatus, baths, and all necessary appliances. The floors are of impermeable cement, and the ceilings of painted sheet steel. There is also a fodder room 20 feet by 30 feet.

THE OPERATING THEATER for the surgical clinic is at the south end of the patients' ward and is connected therewith. The building is well lighted and is provided with modern plumbing. There is a recovery room, in which the patients may recover from the effects of anaesthetics, connected with the operating table by an inclined plane, down which the patient may be conveyed. The clinic is well supplied with instruments and modern conveniences.

THE MORTUARY BUILDING has an impermeable floor, walls of enameled brick, and painted steel plate ceilings.

THE POST MORTEM BUILDING is behind the main building and is furnished with room for instruments, and with water, heater, etc. The lighting and equipment and the facilities for demonstration have received special attention.

A cottage for the groom completes the list of State buildings erected for the Veterinary College. The equipment has been made very complete for both educational uses and research.

THE EXPERIMENT STATION consists of a 133-acre farm. The buildings include a laboratory used for research and the preparation of anti-hog cholera serum, and barns to house experimental animals. There are six cattle barns, two hog barns, one horse barn, and minor buildings. The office and one laboratory are in James Law Hall. The buildings are devoted primarily to research with animal diseases but the research furnishes material for the instruction of graduate students and for special lectures and demonstrations to seniors in the Veterinary course.

For a more detailed account of the equipment and of the facilities for instruction see Departments, Methods, and Facilities, pages 21-33.

LIBRARIES AND MUSEUMS

The Veterinary College not only has a good special library of its own, the Roswell P. Flower Library, but it also enjoys the free use of the University Library of 750,000 volumes and over 2,000 current periodicals and transactions of societies. Its own museum, moreover, is supplemented by other University museums, among which, of particular value to the college, are those of vertebrate and invertebrate zoology (including entomology), agriculture, botany, and geology.

THE ROSWELL P. FLOWER LIBRARY

The late Roswell P. Flower of Watertown, former Governor of the State, laid the foundation for a thoroughly good working veterinary library by his gift of \$5,000 to the Veterinary College in 1897. Mrs. Flower, in 1900, gave the library an endowment of \$10,000, the income of which is used for the purchase of books. The collection of books and periodicals obtained with these funds has been considerably

increased by donations from various persons and by purchases out of the income of the College, and the Flower Library now comprises about 9,500 volumes. It is generously supplemented by the loan of books and periodicals from the University Library.

The new library wing of James Law Hall, with spacious stack and reading-rooms, is open daily from 9 to 5. In the reading-room are the current numbers of the leading American and foreign veterinary and medical periodicals. Books bearing especially upon the work of laboratory courses, the catalogue, and books of general reference may also be consulted here. Books may be drawn by students from the library for home use under the same general rules that pertain to the University and Agricultural libraries; these libraries also are accessible to Veterinary students. The generosity of the Army Medical Library in Washington and of the Academy of Medicine in New York, from which the Flower Library may borrow books for special research workers, enlarges still further the scope of the Flower Library, and opens to scientific workers in this field the main collections of medical literature in the country.

GENERAL LIBRARY FACILITIES

In the University Library there are more than 10,000 volumes, including bound periodicals and transactions, on veterinary and human medicine and the allied sciences. The library receives regularly more than 2,000 periodicals and journals of transactions, and many of them pertain directly to medicine and biology. Veterinary students have free access to the University Library and its reading rooms, which are open every day except Sunday from 8 a. m. until 10:45 p. m.

NON-RESIDENT LECTURERS

Practitioners and other persons working in the interest of veterinary medicine are invited to visit the College and lecture before the faculty and students. These lectures are arranged to take place as regularly as possible throughout the year. They widen the scope of the instruction and bring the student into closer touch with matters pertaining to practice, meat inspection, sanitation, etc.

ADMISSION

The entrance requirements of the New York State Veterinary College may be satisfied by presentation of a Veterinary Student Certificate issued by the Education Department, Albany, New York.

Beginning September, 1932, one year of college work will be required at entrance; this year to include Chemistry, 6 hours, English, 6 hours, and Modern Language, 4 hours, the balance in electives, preferably Botany and Zoology.

The candidate should apply directly to the New York State Education Department, Albany, N. Y., for a Veterinary Student Certificate. He should send to that Department official evidence of his qualifications to meet the requirements stated by the Department for a Veterinary Student Certificate. A student who is a candidate for the Veterinary degree must be entitled to a Veterinary Student Certificate, issued by the State Department of Education, before beginning his course.

Certificates are not sent from Albany to the individual applicants. They are issued only for filing in a registered professional school when such school makes requisition for them. Accordingly, the student should, at the same time he applies to Albany for his Qualifying Certificate, apply also to the Director of Admissions of Cornell University for entrance to the Veterinary College. Applications for entrance must be made on a form which will be furnished by the Director of Admissions on request. Address the Office of Admissions, Morrill Hall, Ithaca, N. Y.

Students preparing to enter the Veterinary College are advised to take physiology, biology, and physics among their electives in high school work.

RULES GOVERNING ADMISSION

Besides satisfying the entrance requirements, candidates for admission must comply with the following rules:

1. Every candidate for admission to an undergraduate course must deposit twenty-five dollars with the University. Candidates are warned not to send cash through the mails. A check, draft, or order should be payable to Cornell University and should be sent to the Office of Admissions, Cornell University. The deposit must be made not later than June 1 if the candidate is to be admitted in September to the College of Arts and Sciences, the College of Architecture, or the College of Home Economics, and not later than August 1 if he is to be admitted in September to any of the other colleges. It must be made not later than January 1 if the candidate is to be admitted in February to any of the colleges.

If the candidate matriculates, the deposit will be credited to his account, \$10 for the matriculation fee and \$15 as a guaranty fund, which every undergraduate student is required to maintain and which is to be refunded upon his graduation or permanent withdrawal, less any indebtedness to the University.

If admission is denied a candidate, the deposit is refunded in full at any time.

A candidate may withdraw the application for admission, but a charge of \$10 is regularly made for accrued expenses unless the application is withdrawn and a refund of the deposit in full is claimed before the due date, which is June 1 in the College of Arts and Sciences, the College of Architecture, and the College of Home Economics, and August 1 in the other colleges. If an application is not withdrawn until after the due date of the college concerned, but is withdrawn before August 31, the \$10 charged for accrued expenses is deducted and \$15 of

the deposit is refunded. No refund is made to an applicant who withdraws the application after August 31.

In the case of applications for admission in February, a withdrawal after January 1 incurs the regular charge of \$10, and no refund is made for withdrawal after January 31.

(The winner of a New York State Tuition Scholarship in Cornell University may apply for admission to the University and make the required deposit of \$25 immediately after receiving formal notice of his appointment from the Commissioner of Education at Albany.)

2. Every candidate for matriculation must submit to the Director of Admissions a satisfactory certificate of vaccination against small-pox, not later than August 1 if he is to be admitted in September, or not later than January 1 if he is to be admitted in February. It will be accepted as satisfactory only if it certifies that within the last five years a successful vaccination has been performed or three unsuccessful attempts at vaccination have been made.

3. Every candidate for admission to an undergraduate course must file with his application at the Office of Admissions either a certificate of good moral character or, if he has attended some other college or university without graduating from it, a certificate of honorable dismissal from it.

ADMISSION TO ADVANCED STANDING

Applicants for admission to advanced standing as members of the second, third, or fourth year class must present the necessary educational qualifications for admission to the first year class, and must pass satisfactory examinations in all the work for which they desire advanced credit, or offer satisfactory certificates of the completion of this work in other schools whose entrance requirements and courses of study are equivalent to those of this college. No person will be admitted to any advanced class except at the beginning of the college year in September.

Graduates of veterinary colleges whose requirements for graduation are not equal to those of the New York State Veterinary College may be admitted upon such terms as are fixed by the State Department of Education in Handbook No. 12. In this connection, attention is called to the legal requirements of academic and professional education for the practice of veterinary medicine in the State of New York. See page 10 and Appendix B.

ADMISSION TO GRADUATE STUDY

Graduates of this college or other colleges may enter the Graduate School of Cornell University and pursue work in the Veterinary College and allied departments of the University. A prospective graduate student should consult the Announcement of the Graduate School and apply to the Dean of the Graduate School.

ADVANCED WORK AND RESEARCH

The Veterinary College, alone or in combination with other departments of the University, offers advanced students very great oppor-

tunities for study and investigation. Its situation gives it abundant and various material for research, and it has ample facilities for the prosecution of such work. It encourages graduate and advanced students to carry on independent investigations. Courses of study especially adapted to advanced work and research will be found among those listed on pages 21-33.

SEMINARIES

The several departments of the College hold seminars or special conferences for their advanced and graduate students. The seminary hears reports of the results of investigations and the progress of knowledge in its particular field; discusses methods of advanced and independent work such as is expected of those who are preparing theses or prosecuting any special investigation; and hears the reports of the students on the progress of their work. By means of the seminary the student incidentally gains facility in public speaking and fits himself to take a creditable part in the meetings of veterinary or medical societies.

STUDY FOR PRACTITIONERS

The very rapid advance made during recent years in veterinary science and in facilities and methods for teaching it, as well as the advantage to be gained by studying a given subject under more than one teacher, make it highly desirable that busy practitioners should be enabled as far as possible to increase their personal knowledge by means of study at such times as they can leave their practices. The New York State Veterinary College wishes to supply this want so far as practicable and offers every facility at hand to accomplish this end.

Veterinarians who are legally authorized to practice at their places of residence will be admitted to any class in the college at any time and for such period as they may elect, without entrance examinations. They will be wholly free to elect any studies that are being regularly taught at the time, and will be granted all opportunities and facilities offered to regular students as long as these privileges do not interfere with the instruction of the regular students. No tuition will be required from licensed veterinarians practicing in the State of New York. Those taking laboratory courses will be required to pay fees to cover the cost of the material used. Every practicable facility will be offered for special study along desired lines. A study of pages 21-33 (Departments, Methods, and Facilities) will enable a practitioner to determine in advance precisely what work will be in progress at a given date.

This work is offered to veterinarians entirely for the benefit they may derive from increased knowledge in veterinary science and does

not contemplate the granting of a degree, certificate, or other evidence of responsibility on the part of the College.

General inquiries in reference to this work should be addressed to the Dean, whereas questions relating to studies in the various departments may be addressed to the heads of the departments concerned.

A SEVEN-YEAR COURSE IN AGRICULTURE (B.S.) AND VETERINARY MEDICINE (D.V.M.)

A regular student may register in both the New York State College of Agriculture and the New York State Veterinary College provided (1) he has completed all specifically required courses up to that time, (2) has a credit of ninety hours none of which is in the Veterinary College, and (3) has the permission of both the faculties concerned. Such a student may be recommended for the degree of Bachelor of Science when he has (1) completed, besides the ninety hours already credited him, thirty hours, of which not less than twelve are for courses taught in the College of Agriculture, and has (2) fulfilled both the group and the agricultural elective requirements of the College of Agriculture. On the completion of the remaining three years, if he meets the requirements of the Veterinary College, he may receive the degree of Doctor of Veterinary Medicine.

REGISTRATION

Every student is required to register with the Registrar of the University at the beginning of each term. See the Calendar on page 2 for the exact day. After completing that registration, he must register on the same day with the Secretary of the Veterinary College, Dr. Sunderville, at Room 3, on the first floor of the main building of the College. After being admitted to the University no student is allowed to register after the close of the regular registration day except by special permission.

TUITION AND OTHER FEES

Tuition. For students not residents of the State of New York the tuition in the Veterinary College is two hundred dollars a year, payable \$110 at the beginning of the first term and \$90 at the beginning of the second term. Tuition is free to residents of the State of New York. The law governing the administration of the College provides that "no tuition fee shall be required of a student pursuing the regular veterinary course who for a year or more immediately preceding his admission to said veterinary college shall have been a resident of this State." A limited number of tuition scholarships are available to non-residents; see Scholarships, page 16.

Students are advised to consult the General Information Number for the University's rules regarding the payment of tuition and other fees.

Laboratory Fees. Every person taking laboratory work is required to pay for the materials actually used. For the first year the laboratory fees will approxi-

mate \$52.50; for the second year, \$40; for the third year, \$43.50; for the fourth year, \$5.00. In some departments a rebate is given at the end of the academic year if there has not been much breakage or excessive use of materials.

A *Matriculation Fee* of \$10 is required of every student upon entrance into the University; this fee must be paid at the time of registration. A new undergraduate student who has made the required deposit of \$25 with the Treasurer need not make an additional payment of the matriculation fee, because the Treasurer will draw on the deposit for this fee.

An *Infirmary Fee* of \$5 a term is required, at the beginning of each term, of every student. In return for the Infirmary fee, any sick student is, on his physician's certificate, admitted to the Infirmary, and is given without further charge a bed in a ward, board and ordinary nursing, for a period not exceeding two weeks in any one academic year.

A *Willard Straight Hall Membership Fee* of \$5 a term is required, at the beginning of each term, of every student. Its payment entitles the student to a share in the common privileges afforded by the operation of Willard Straight Hall, subject to regulations approved by the Board of Managers of the Hall. A fee of \$5 a term is required of all graduate students except those who are members of the instructing staff, for whom membership is optional. The use of the hall is restricted to those who have paid this fee.

A *Physical Recreation Fee* of \$2 a term is required at the beginning of each term, of every male undergraduate student. Payment of this fee entitles the student to the use of the gymnasium and the university playgrounds, and to the use of a locker, together with the use of bathing facilities and towels, in the gymnasium, or in the New York State Drill Hall, or in the Schoellkopf Memorial Building.

A *Graduation Fee* is required, at last ten days before the degree is to be conferred, of every candidate for a degree. For the first or baccalaureate degree the fee is \$10; for an advanced degree it is \$20. The fee will be returned if the degree is not conferred.

Tuition and other fees become due when the student registers. The University allows twenty days of grace after the last registration day of each term. The last day of grace is generally printed on the registration coupon which the student is required to present at the Treasurer's office. Any student who fails to pay his tuition charges, other fees, and other indebtedness to the University, or who, if entitled to free tuition, fails to claim it at the Treasurer's office and to pay his fees and other indebtedness, within the prescribed period of grace, is thereby dropped from the University unless the Treasurer has granted him an extension of time to complete payment. For the conditions and terms of any such extension, see the General Information Number.

A tuition fee or other fee may be changed by the Trustees at any time without previous notice.

CHARGES FOR MINOR DELINQUENCIES

Every student is held personally responsible for any injury done by him to any of the University's property.

Assessments, charged to the student's account and payable at the Treasurer's office, are levied upon the student in certain circumstances, under the following rules of the University:

A student desiring to be reinstated after being dropped from the University for delinquency in scholarship or in conduct shall first pay a fee of \$25.

A matriculated student desiring to register after the close of registration day shall first pay a fee of \$5. [Students in the Graduate School are excepted.]

A student desiring to file his registration of studies after the date set by his college for filing the same shall first pay a fee of \$2.

A student desiring to take an examination or other test for the removal of a term condition (including the making up of a mark of "absent" or "incomplete") shall first pay a fee of \$2 for each examination or other test.

A student desiring to make an appointment for the required medical examination or conference after twenty days from the last registration day of the term shall first pay a fee of \$2.

For reasons satisfactory to the proper authority any of the above-mentioned assessments (except that levied for examination or other test to remove a condition) may be waived in any individual case if the student's failure to comply with the regulation was due to ill health or to other reason beyond his control. Application for such a waiver should be made to the Dean of the college enrolling the student, or in the case of the medical examination, to the chairman of the Faculty Committee on Health.

SCHOLARSHIPS AND PRIZES

The following scholarships and prizes are offered to students in the Veterinary College as incentives to earnest study:

University Undergraduate Scholarships. At a special examination held at the beginning of the fall term in each year, eighteen scholarships, continuing for two years and of an annual value of \$200 each, are open to competition by all members of the incoming freshman class of the University. For a statement of the provisions regulating the award and tenure of these scholarships, see the General Information Number.

University Scholarship for Graduates. One University Graduate Scholarship of the value of \$200 is offered annually to a graduate in veterinary medicine. This scholarship is open to graduates of all veterinary schools having requirements for graduation equivalent to those of this college. Applications may be made by graduates or seniors in good standing and should be filed with the Dean of the Graduate School on or before March 15 of the academic year preceding the one for which application is made.

Tuition Scholarships. The trustees have authorized a limited number of scholarships, each of an annual value of \$200, the amount of the annual tuition, to be awarded each year by the Veterinary College. The scholarships are awarded to undergraduate students who are of sufficiently high promise or standing in the judgment of the faculty, who are not residents of New York State, and who have had, before entering, some college or university training. Each student holding a scholarship must maintain a standing satisfactory to the Veterinary Faculty.

The Horace K. White Prizes, established by Horace K. White of Syracuse, are awarded annually to meritorious students in the graduating class of the College. They consist of a prize of \$100 to the first in merit and a prize of \$25 to the second in merit.

The Jane Miller Prize of \$50 in veterinary physiology is awarded to the student or students doing the best work in this subject. This prize is usually divided into a first prize of \$30 and a second prize of \$20 and awarded at the end of the junior year.

The James Gordon Bennett Prize of \$50 is offered to members of the graduating class. The award is based upon work in the clinics giving evidence of the ability of the recipient to handle diseased animals humanely. Special emphasis is laid upon the ability of the student to apply effectively local and general anesthesia.

The Anne Besse Prize of \$50 in the principles and practice of veterinary medicine. This award is based upon work in the clinics giving evidence of ability in clinical diagnosis.

Charles Gross Bondy Prizes. Two annual prizes to be awarded to two senior students who rank highest in proficiency in the courses of practical medicine and surgery of small animals. The first prize is \$30 and the second prize is \$20.

The Merry Prize in Anatomy. This prize is bestowed by Albert E. Merry as a memorial to his father, Addison D. Merry. This prize is usually divided into a first prize of \$30 and a second prize of \$20. It is awarded at the end of the sophomore year to the student or students doing the best work in this subject.

EXPENSES

Living expenses in Ithaca vary from \$8 to \$12 a week. Books, instruments, stationery, etc., cost about \$40 a year.

The laboratory fees are first year, \$52; second year, \$40; third year, \$43.50; fourth year, \$5.

OPPORTUNITIES FOR SELF-HELP

In addition to occasional and irregular work at hourly compensation in the various departments, the following positions as student assistants are open to capable veterinary students in their senior year:

Anatomy	\$400 a year
Bacteriology and Pathology	\$400 a year
Physiology	\$400 a year

THE RULE GOVERNING STUDENT CONDUCT

The University's rule governing the conduct of students is this: "A student is expected to show both within and without the University unfailing respect for order, morality, personal honor, and the rights of others." The authority to administer this rule and to impose penalties for its violation is vested in the University Committee on Student Affairs. The rule is construed as applicable at all times, in all places, to all students of the University. A student may at any time be removed from the University if, in the opinion of the Committee on Student Affairs, his presence is not conducive to the University's best interests.

PRESCRIBED FOUR-YEAR COURSE

LEADING TO THE DEGREE OF DOCTOR OF VETERINARY
MEDICINE (D.V.M.)

REQUIREMENTS FOR GRADUATION

In order to receive the degree of Doctor of Veterinary Medicine (D.V.M.), candidates must satisfy all the entrance requirements (see page 10), must successfully pursue the courses named in the following Schedule of Studies, must have paid all due fees, and must have spent at least one year in residence.

The work of the college is arranged to begin late in September and to close in June. This academic year is divided into two terms. See the Calendar on page 2.

Students remaining in the Veterinary College must pass ten hours each term, four of which, exclusive of clinics, must have a grade of seventy or better. In the first term of the freshman year, students failing to attain this requirement will be warned rather than dropped.

THE SCHEDULE OF STUDIES

In the following schedule, the figure in the first column after the name of the course is the number of the course and refers to a description on one of the following pages, 21-33; the figures in the second and third columns indicate the hours of credit given for the successful pursuit of the several courses in either term; and in the last column is the number of actual hours of work required for each course.

FIRST YEAR

<i>Subject</i>	<i>Course</i>	<i>Credit</i>	<i>Hours</i>
Anatomy	1	3 —	43 ²
“	2	1 —	
“	3	3 —	
“	4	— 5	
Histology	6	— 7	240
Physiology, Lectures	10	3 —	144
“ Laboratory	14a	— 2	45
“ Recitations	11	— 5	90
Zoology	1a	4 —	108
Organic Chemistry	375	4 —	72
Hygiene		1 1	36
Military Drill		1 1	90
Total of credit and hours of work.....		20 21	1257

SECOND YEAR

<i>Subject</i>	<i>Course</i>	<i>Credit</i>	<i>Hours</i>
Zoology	1a	— 3	96
Anatomy	5	5 —	256
“	6	— 1	
Physiology, Recitations	12	2 —	32
“ Lectures	13	— 2	32
“ Laboratory	14	2 —	80

<i>Subject</i>	<i>Course</i>	<i>Credit</i>	<i>Hours</i>
Pharmacology	20	2 2	64
Materia Medica	21	2 —	90
General Surgery	30	— 4	112
General Pathology, Recitations	40	— 2	32
“ “ Laboratory	40a	— 2	80
General Bacteriology, Lectures	43	2 —	32
“ “ Laboratory	43a	2 —	80
Physical Diagnosis	51	— 2	32
Military Science and Tactics	1	1 1	96
Total of credit and hours of work.....		18 19	1114

THIRD YEAR

<i>Subject</i>	<i>Course</i>	<i>Credit</i>	<i>Hours</i>
Animal Husbandry	1 and 10	3 3	128
Embryology	9	— 2	56
Urine Analysis	15	— 1	40
Diseases of Small Animals	22	— 2	32
Small Animal Clinic	25	1 1	48
Surgical Exercises	31	1 —	48
Special Surgery	32	5 —	80
Consulting Clinic	34	1 1	48
Autopsies—By appointment	47	— —	—
Special Pathology	41	2 —	32
“ “	41a	2 —	80
Pathogenic Bacteriology, Lectures	49	— 2	32
“ “ Laboratory ..	49a	— 3	80
Parasites	44	2 —	32
“	44a	1 —	40
Medicine	50	2 3	80
Ophthalmology	55	— 1	16
Total of credit and hours of work.....		20 19	872

FOURTH YEAR

<i>Subject</i>	<i>Course</i>	<i>Credit</i>	<i>Hours</i>
Dairy Testing and Inspection	2	— 3	72
Materia Medica	23	2 —	32
Small Animal Clinic	25	1 1	48
Surgical Clinic	33	2 2	96
Consulting Clinic	34	1 1	48
Jurisprudence	35	— 1	16
Infectious Diseases, Lectures	42	2 —	32
Poultry Diseases	46	— 2	32
Autopsies	47	— 1	24
Meat and Dairy Inspection	48	— 1	16
Medicine	50a	3 2	80
Horseshoeing	36	1 1	80
Ambulatory Clinic	53	2 2	80
Obstetrics	54	4 —	64
Veterinary Hygiene	56	— 1	16
Diseases of Small Animals	22a	— 2	32
English	57	2 2	64
Total of credit and hours of work.....		20 22	832

The following second, third, and fourth year schedules are for students entering in the fall of 1932:

SECOND YEAR

	<i>Credit</i>	<i>Credit</i>
Anatomy	5	2
Physiology Laboratory	2	0
Pharmacology	2	2
Materia Medica and Pharmacy	2	0
General Pathology	4	0
General Bacteriology	4	0
General Surgery	0	4
Pathogenic Bacteriology	0	5
Physical Diagnosis	0	2
Urine Analysis	0	1
Special Pathology	0	4
	<hr/> 19	<hr/> 20

THIRD YEAR

Embryology	0	2
Diseases of Small Animals	0	2
Small Animal Clinic	1	1
Surgical Exercises	1	0
Special Surgery	5	0
Parasites, Lecture	2	0
Parasites, Laboratory	1	0
Medicine	2	3
Ophthalmology	0	1
Dairy	0	3
Animal Husbandry	3	3
Meat Inspection	0	1
Poultry Diseases	0	2
Consulting Clinic	1	1
Materia Medica Recitation	2	0
	<hr/> 18	<hr/> 19

FOURTH YEAR

Infectious Diseases	2	0
Small Animal Clinic	1	1
Consulting Clinic	1	1
Jurisprudence	0	1
Autopsies	1	1
Medicine	3	2
Horseshoeing	1	1
Obstetrics	4	0
Hygiene	0	1
Diseases of Small Animals	0	2
Ambulatory Clinic	2	2
Clinics and Laboratory Practice	3	3
Elective	2	3
	<hr/> 20	<hr/> 18

DEPARTMENTS; FACILITIES; METHODS; COURSES OF INSTRUCTION

In the following pages, the names of the departments, with summaries of their particular equipment, facilities, methods, and courses of instruction, are given approximately in the order in which the studies are pursued in the veterinary curriculum.

CHEMISTRY

375. Elementary Organic Chemistry. First term. Lectures and laboratory, four hours credit. For students preparing for the study of medicine. Prerequisite, Chemistry 101, 105, 205 and 206 (or 210). Professor J. R. JOHNSON, Dr. TALLMAN, and assistants.

Lectures and written reviews, M W F S 12. *Baker 207.*

Laboratory sections:

M W 1:40-4, *Baker 250.* Conference M 1:40, *Baker 207.*

T Th 1:40-4, *Baker 250.* Conference T 1:40, *Baker 207.*

MICROSCOPY; HISTOLOGY; EMBRYOLOGY

Professor, B. F. KINGSBURY; Instructor, A. J. RAMSEY; Assistants, R. L. BEAN, C. F. GREEN, and R. A. MUELLER.

This department offers instruction in the theory and use of the microscope and its accessories; in vertebrate histology, in vertebrate embryology, and in histologic and embryologic technique; and opportunity for research in all of these subjects. For all the courses the department is well supplied with the best modern apparatus.

The rooms for the use of this department are in the basement and second floors of Stimson Hall. They consist of a large general laboratory, a research laboratory, preparation room, and laboratories for the instructing staff, where also special demonstrations of difficult subjects are given to small groups of students.

In the courses outlined below, the student gains a practical knowledge of the normal structure of the tissues and organs of the animal body by the direct study of them in the laboratory. From time to time, the ability of the student to recognize the normal structure is tested by the identification of unlabeled preparations. The laboratory work is supplemented by recitations, reviews, and lectures covering the general aspects of the subject.

6. Microscopy and Histology. Second term. Credit seven hours. Required of first year students. The exercises each week are as follows: Laboratory work, M W F S 9-12, Lectures or recitations, M W F 8. Professor KINGSBURY and assistants.

Microscopy. The aim is to give a working knowledge of the theory and use of the microscope and its accessories, methods of mounting microscopical specimens, etc. Laboratory fee, \$6.

Histology. This includes the study of the fine anatomy of the animal body, and also fundamental methods of histologic investigation and demonstration.

9. Embryology. Third year, second term. Credit two hours. The exercises each week are as follows: Laboratory work, M 11-1, lecture M 10. Professor KINGSBURY. A study of the development of the domestic animals (chiefly common fowl, pig, sheep, cow, horse), the fetal membranes and placenta, together with a general consideration of sex, inheritance, and the laws of development, maternal impressions, etc.

9. Embryology. Third year, second term. [Beginning in 1935.] Credit two hours. The exercises each week are as follows: Lecture and laboratory work, M 1:40-4. Professor KINGSBURY. A study of the development of the domestic

animals (chiefly common fowl, pig, sheep, cow, horse), the fetal membranes and placenta, together with a general consideration of sex, inheritance, and the laws of development, maternal impressions, etc.

ANATOMY

Professor, G. S. HOPKINS; Assistant Professor, EARL SUNDERVILLE.

The instruction in anatomy is by lectures, recitations, and laboratory work, the last being by far the most important. The objects of the lectures are to present facts of general morphology as related to the horse and other domestic animals; to direct attention, as far as possible, to the correlation of structure and functions of the various organs of the body; and to emphasize the anatomical relations of those parts most subject to surgical operations. The main reliance, however, is placed upon the work done in the laboratory. Thorough, practical knowledge of anatomy can be acquired in no other way, and every student, before taking his final examination, will be required to dissect all parts of the horse or the ox, and such parts of other domestic animals as may prove most expedient.

The courses in anatomy extend over two years. The first year is devoted to the study of bones, joints, muscles, and certain viscera; the second year, to the vascular and nervous systems and to the organs of special senses.

In the study of osseous, muscular, digestive, and respiratory systems, the skeletons in the laboratory and the Auzoux models afford valuable assistance. In the museum there are accumulating series of specimens which illustrate, in a typical manner, some of the more important anatomical features of the various domestic animals.

1. **Comparative Osteology.** First year, first term. Credit three hours. Lecture, T 9. From September to February there will be five periods of laboratory work, M 10-12; T 10-12:30; W 1:40-4; Th 10-12:30; S 9-12. Professor HOPKINS and assistants. Laboratory fee, \$5.

2. **Arthrology.** First term. Credit one hour. This course immediately follows course 1. Professor HOPKINS and assistants.

3. **Myology and Abdominal Viscera.** First term. Credit three hours. In this course the dissection of muscles is begun. Lectures, laboratory hours, etc., the same as in the preceding courses. Professor HOPKINS and assistants.

4. **Myology, Thoracic and Abdominal Viscera, Lymphatic System, and Organs of Special Sense.** Second term. Credit five hours. Lectures and written reviews, Th 9. One or more weekly recitations. Laboratory work, M W 1:40-4; T 9-12. Professor HOPKINS, Assistant Professor SUNDERVILLE, and assistants. Laboratory fee, \$5.

5. **Blood Vessels and Nerves of the Arm, Leg, and Head.** Second year, first term. Credit five hours. Laboratory work, M T Th 1:40-4, F and S 9-12. Assistant Professor SUNDERVILLE and assistants. Laboratory fee, \$7.

*6. **Central Nervous System and Genital Organs.** Second year, second term. Credit one hour. F 1:40-4. Assistant Professor SUNDERVILLE and assistants.

7. **Canine Anatomy.** Second term. Hours to be arranged. Topographic anatomy of the dog and regions of the body most subject to surgical operations will be studied.

PHYSIOLOGY

Professor, C. E. HAYDEN; Instructor, JESSE SAMPSON; Student Assistant, A. G. DANKS.

It is the aim of this department to select from a wide field of important topics those which will be of greatest use to the student in comprehending the vital processes of the animal body. Without a complete understanding of the normal

*In 1933-34 Course 6 will include the viscera of the dog and will be two hours credit.

functions, it is useless to attempt progress in the proper conception of diseased conditions.

The proper correlation of work in the laboratory and in the recitation and lecture room, it is believed, will afford to the student a more comprehensive grasp and understanding of the perspective and symmetry of the subject than can be obtained otherwise.

The lectures are illustrated with lantern slides, charts, histological preparations, dissections, and practical demonstrations.

The laboratory is on the second floor of the Veterinary College. It is well lighted and ventilated, and equipped with suitable apparatus. The equipment includes kymographs, induction coils, sphygmographs, cardiographs, circulation schemes, tambours, centrifuges, microscopes, and other apparatus for complete and satisfactory work.

Every encouragement is offered to those properly fitted to pursue their work beyond that given in the regular curriculum.

10. The Physiology of the Nutrition and Secretion of the Domesticated Animals. First year. First term, for veterinary and agricultural students. Credit three hours. M W F 9. Second term, for agricultural students. M W F 10. Professor HAYDEN.

12. Physiology Recitations. Second year, first term. Credit two hours. Section I, T 8, Th 9. Section II, T 9, Th 8. Section III, W 9, S 8. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS.

13. The Physiology of the Muscular and Nervous Systems. Second year, second term. Credit two hours. M W 10. Professor HAYDEN.

14. Physiological Laboratory. A portion of the course is devoted to chemical physiology. Artificial digestive juices are tested upon the various kinds of foodstuffs by the students and careful notes kept of the various changes. Bile and blood are also studied. A portion of the work is devoted to a study of the phenonema associated with the circulatory, respiratory, muscular, and nervous systems. Students are required to obtain and preserve graphic records of these phenomena, whenever possible. Certain experiments requiring special apparatus and special care are performed as demonstrations by the instructors, with the assistance of the students when possible. Second year, first term. Credit two hours. Five hours a week. M 11-1, T 10-1, W 11-1 and Th 10-1. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS. Laboratory fee, \$7.50.

15. Urine Analysis. Laboratory work devoted to the comparative study of urine. Examinations are made of human urine and that of the domesticated animals, especially the horse. In addition to the chemical examination some attention will be devoted to a microscopic study of urinary deposits. Third year, second term. Credit one hour. Three hours a week, F 10-1; or S 10-1. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS. Laboratory fee, \$4.50.

16. Advanced Physiology. This course will be adapted to the needs of the students and will consist principally of laboratory work supplemented by such reading and reports as may be necessary. Five or more hours a week. Professor HAYDEN and Instructor SAMPSON.

11. Physiology Recitations or Lectures. First year, second term. Credit five hours. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS. Recitations, M W 12; T Th S 8.

14a. Physiology Laboratory. First year, second term. Devoted to chemical physiology. Attention will be given to the composition of tissue, tissue fluids, and the secretions of the animal body; the nature of the foodstuffs, and the phenomena of their digestion and absorption; the normal constituents of the blood and the quantitative estimation of such as have been found most important in physiological and clinical studies; the composition and function of the bile;

the principles of nutrition as governed by physiological processes. Certain organic compounds of importance in animal physiology will be studied. The principles of electrolysis, osmosis, and dialysis will be demonstrated. Five hours, credit two hours. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS. Laboratory, Th 10-1; F 1:40-4. Laboratory fee, \$7.50.

14b. Physiology Laboratory. Second year, first term. Phenomena associated with the circulatory, respiratory, muscular, nervous, digestive, and endocrine systems will be studied. The experiments are designed to associate as closely as possible physiological principles and clinical veterinary medicine. Hours to be arranged. Five hours a week. Credit two hours. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS.

15. Urine Analysis. Second year, second term. [Beginning in 1934.] Devoted to the comparative study of urine. Examinations are made of human urine and that of the domesticated animals especially the horse, cow, and dog. A microscopic study of urinary deposits will be carried out in addition to the chemical examination. Second year, second term. Three hours a week, credit one hour. Hours to be arranged. Professor HAYDEN, Instructor SAMPSON, and Assistant DANKS. Laboratory fee, \$4.50.

ZOOLOGY

1a. General Zoology. First term. Credit four hours. Assistant Professor YOUNG. Lecture, W 10; recitation F 10, *McGraw* 5. Laboratory, T Th 1:40-4, *McGraw* 2. Open to freshman veterinary students.

*Second term. Credit three hours. Assistant Professor YOUNG and Dr. MEKEEL. Open to sophomore veterinary students.

Section 1, Laboratory, M 1:40-4 and S 8-10:20. Recitation, F 8.

Section 2, Laboratory, T Th 1:40-4. Recitation, T 10.

Section 3, Laboratory, T Th 1:40-4. Recitation, Th 10.

Laboratory work in *McGraw* 2; recitations in *McGraw* 5.

An introduction to the field of zoology through a study of the structural and functional organization of animals. Fundamental biological principles are discussed and consideration is given to the systematic relationships of the larger animal groups. Laboratory fee, \$4.50.

Registration before instruction begins is required.

MATERIA MEDICA AND SMALL ANIMAL CLINIC

Professor, H. J. MILKS; Assistant Professor, H. C. STEPHENSON; Assistant, D. B. CRANE.

The instruction in Materia Medica and Small Animal Clinic consists of lectures, recitations, and laboratory work. The work in pharmacology includes not only the action of medicines but also their preparation and uses. The clinic furnishes abundant material for the study of applied therapeutics and the action of different drugs.

20. Pharmacology. Throughout the year. Credit two hours a term. A study of the actions and uses of the various drugs and their preparation. A varied collection of the crude drugs and their official preparations is available. Two lectures or recitations each week. First term, M W 10; second term, T 8, F 9. Professor MILKS and Assistant Professor STEPHENSON. Prerequisite: Veterinary Physiology 10.

21. Materia Medica and Pharmacy Laboratory. First term. Credit two hours. The work in this course consists of the study of a selected group of inorganic drugs and of certain crude organic drugs and their official preparations, and in making pharmaceutical preparations such as syrups, emulsions, spirits,

*For students registered in 1931-32.

liniments, tinctures, fluid extracts, extracts, ointments, pills, etc. In this study the student is required to write concise notes on the physiologic action of the drugs examined and to make tests of their incompatibility. In addition to this, each student will have practical experience in writing and compounding prescriptions. The importance of a discriminating and accurate system for dispensing medicines is thoroughly emphasized. Five hours a week. Sec. I: M 11-1; T 10-1. Sec. II: M 8-10; F 9-12. Professor MILKS and Assistant Professor STEPHENSON. Laboratory fee, \$10.

22. Diseases of the Small Animals. This course deals principally with canine and feline diseases. Two lectures or recitations throughout the second term of the third year. M 9, W 10. Professor MILKS and Assistant Professor STEPHENSON. Prerequisites: General Surgery 30, and Physical Diagnosis 51.

22a. Diseases of the Small Animals. Fourth year, second term. Credit two hours. W 9, Th 10.

***23. Recitations in Materia Medica and Therapeutics.** Fourth year, first term. Credit two hours. T Th 9. Professor MILKS. Prerequisite: Pharmacology 20.

24. Advanced Work. This course will consist principally of laboratory exercises on the physiological action of drugs on animals and will be supplemented by collateral reading and reports. Five or more hours a week. Professor MILKS.

CLINIC FOR SMALL ANIMALS

In this clinic, dogs and cats form the majority of patients. The students have close supervision of the cases; they compound and administer medicines and assist in the surgical operations.

***25. Small Animal Clinic.** Credit one hour a term. Six actual hours a week throughout the third and fourth years. Daily, 2-4 p. m. Professor MILKS, Assistant Professor STEPHENSON, and assistants.

Clinics and Laboratory Practice. Fourth year. Credit three hours each term. The student will be given an opportunity to become skilled in the physical examination of dogs and cats, to gain experience in the use of special instruments and methods of diagnosis, such as microscopical examination of feces, and skin, passing the stomach tube and catheter, work with the laryngoscope and oesophagoscope, examination of the eye, practice with making, developing, and interpreting X-ray plates, and to develop judgment in the interpretation of the results of such examinations.

The work will be conducted largely as an internship or assistantship in which the students will be required to assist the staff in obtaining the history, making the examinations and diagnoses, and in most cases in operations or other remedial procedures.

Elective. Two hours a week. This will consist of advanced work in pharmacology or in diseases of the small animals. The choice will depend largely upon the interest of each student.

ANIMAL HUSBANDRY

1. Livestock Production. First term. Credit three hours. Lectures, M F 10. *Animal Husbandry Building A.* One laboratory period, M 10-12:20, or W 11-1:00. *Judging Pavilion.* Professors SAVAGE and HARPER. Assistant Professor HINMAN and Mr. J. P. WILLMAN. Laboratory fee, \$2.00.

Introduction to types, breeds, judging, and management of livestock.

*Course 23 for the class of 1932-33 will be given in the third year.
Course 25—Clinic from 11 to 1 daily.

10. **Livestock Feeding.** Second term. Credit three hours. Lectures, T Th 9. *Animal Husbandry Building A.* One laboratory period, T 10-12:20, or W 11-12:45. Professor MORRISON and assistants.

The feeding of farm animals, including the general basic principles, feeding standards, the computation of rations, and the composition and nutritive value of livestock feeds.

DAIRY INDUSTRY

IN THE COLLEGE OF AGRICULTURE

2. **Dairy Testing and Inspection.** Fourth year, second term. Credit three hours. Lectures and laboratory practice. Saturday 8 to 1. *Dairy 218.* Professors ROSS and GUTHRIE. Laboratory fee, \$7.00.

VETERINARY EXPERIMENT STATION

Professor, R. R. BIRCH; Assistant Professors, J. W. BENNER, H. L. GILMAN; Assistants, CLIFFORD H. MILKS and H. S. CAMERON.

30. **Health and Diseases of Animals.** Arranged especially for students in the College of Agriculture. First term. Credit three hours. Not open to freshmen or to those who have had no courses in animal husbandry. Lectures, M W F 11. *Veterinary College.* Professor BIRCH.

The course is designed to give the student a clear conception of the causes and nature of the diseases of animals, with suggestions for their prevention. Special attention is given to the methods of preventing the spread of the infectious and epizootic diseases. Such information as is practicable is given for the treatment of slight injuries and for first aid in emergencies.

Clinics and Laboratory Practice. Fourth year. Three hours credit throughout the year.

The student is schooled in the actual practices involved in handling Bang's disease of cattle, and hog cholera. He is required to demonstrate proficiency in drawing blood samples, in making and interpreting agglutination tests, in evaluating the causes of failures in reproduction in cattle herds, and in laying out plans of handling to correct these failures. He is given special drill in the diagnosis of hog cholera, in the technique of vaccination, in the handling of field outbreaks, and in the fundamentals on which these practices rest.

Elective. Students desiring to fit themselves for special work with Bang's disease can arrange for an elective with two credit hours. This will cover both semesters of the Senior year.

SURGERY

Professor, J. N. FROST; Assistant Professor, HENRY ASMUS; Instructor, B. J. ERRINGTON.

The instruction consists of classroom and laboratory work designed to afford symmetrical training for practice.

THE CLASSROOM WORK

Course 30 in General Surgery, Course 40 in General Pathology, and Course 31 in Surgical Exercises together constitute a group designed to impart a general knowledge of the principles of surgery, surgical pathology and therapeutics, and operative technique.

Course 32, a total of eighty lectures and recitations, is devoted to the surgery of the various regions of the body.

The College possesses an extensive collection of surgical instruments and apparatus of home and foreign make, illustrating the history of veterinary surgery as indicated by the means employed in the cure of diseases. The College has

acquired since its foundation an extensive pathological collection illustrative of surgical diseases, to which has been added from the surgical and obstetrical clinics a large amount of material of value for teaching purposes. Further important additions are made by veterinary practitioners. The surgical collection is especially rich in specimens illustrating the diseases of the teeth.

CLINICS AND LABORATORY WORK

The laboratory work in the Department of Surgery includes Surgical Exercises and Clinics. The course in surgical exercises comprises sixteen periods of three hours each, in which the student is required to perform all the important operations on horses and cattle. The animal for a given exercise is placed under general anaesthesia, which is maintained until the close of the period, when the subject is destroyed. The maintenance of chloroform anaesthesia for three consecutive hours gives the student valuable experience in the technique of general anaesthesia, for which there is a constantly increasing demand. Strict method is enforced in relation to asepsis and antisepsis, arrest of hemorrhage, suturing, and dressing, so that, while acquiring skill and knowledge of the appearance, resistance, and general character of living tissues, the student also forms proper habits in surgical procedure.

CLINICAL SURGERY OF THE LARGER ANIMALS

M W F, first and second terms. One year. Students in charge of cases are required to give necessary daily attention.

The surgical building has a thoroughly modern equipment in every respect. There is a spacious operating room fitted with operating table, stocks, and other conveniences, a commodious recovery room for chloroformed animals, and other accessory rooms for instruments, drugs, and other necessities. The entire structure is planned to secure the highest efficiency in aseptic and antiseptic surgery. Senior students assist regularly in the surgical operations.

General and local anaesthetics are regularly used in painful operations, and the student is taught to eliminate, as far as practicable, the element of pain in surgery. Instruments and apparatus of the most approved pattern are kept directly at hand in the operating room, and the student becomes familiar with their good and bad points by actual use.

Special apparatus for investigation is supplied as needed. Advanced students are called upon to assist in the various investigations, and thus become not only more familiar with surgical manipulations but also inspired to study methodically and effectively the many questions in surgical pathology and therapeutics. They also become better prepared to cope promptly and properly with the many atypical cases constantly occurring in general practice.

30. General Surgery. Second year, second term. Four recitations or laboratory periods a week. T Th 9, F 8, Th or S 11-1. Professor FROST. Prerequisite courses are 1, 2, and 3 in Anatomy, Course 10 in Physiology, Course 6 in Histology.

31. Surgical Exercises. Three hours a week of laboratory work in surgical operations upon anaesthetized animals. Third year, first term. T 10-1, or Th 10-1. Professor FROST and Dr. ERRINGTON. Laboratory fee, \$20.

32. Special Surgery. Third year, first term. Five lectures or recitations a week. M T W Th F 9. Professor FROST.

33. Surgical Clinic. Six actual hours or more a week throughout the fourth year. M W F 10-12, first and second terms. Professor FROST and Dr. ERRINGTON. Prerequisite courses are 30 and 31.

34. Consulting Clinic. Six actual hours a week for four terms. Daily at 2 p. m. Professor FROST and Dr. ERRINGTON.

35. **Jurisprudence, Ethics, and Business Methods.** One lecture a week. Fourth year, second term. F 9. This course is given chiefly by members of the legal and medical professions and by non-resident veterinarians.

36. **Horseshoeing.** Laboratory and lecture. Fourth year. First term. Laboratory, T 10-12, Section I; Th 10-12, Section II. Prerequisite, Special Surgery 32. Second term: Lecture, M 8-10. Prerequisite, first term's laboratory. Assistant Professor ASMUS.

37. **Horseshoeing Short Course.** Four weeks' training for farmers and farm boys who wish to gain sufficient knowledge to shoe their own horses. One course during the month of November and one during the month of January. Assistant Professor ASMUS.

The following schedule is to apply to those students entering in the fall of 1932.

30. **General Surgery.** Second year, second term. Four recitations or laboratory periods a week. Professor FROST. Prerequisite Courses 1, 2, and 3 in Anatomy, Course 10 in Physiology, Course 6 in Histology.

31. **Surgical Exercises.** Three hours a week of laboratory work in surgical operations upon anaesthetized animals. Third year, first term. Professor FROST and Dr. ERRINGTON.

Laboratory fee, \$20.

32. **Special Surgery.** Third year, first term. Five lectures or recitations a week. Professor FROST.

33. **Clinical and Laboratory Practice.** Fourth year, first and second terms. Credit three hours each term. This course is for the purpose of giving more individual instruction so that the student may be better prepared for practice and corresponds to a short internship. It will include anaesthesia, nerve blocking, surgical operations, lameness and its treatment, especially foot lameness with the preparation of the foot and the designing and fitting of the shoe.

34. **Consulting and Surgical Clinic.** Six actual hours a week for four terms. Professor FROST and Dr. ERRINGTON.

35. **Jurisprudence, Ethics, and Business Methods.** One lecture a week. Fourth year, second term. This course is given chiefly by members of the legal and medical professions, and by non-resident veterinarians.

36. **Horseshoeing.** Laboratory and lecture. Fourth year, first term, laboratory. Prerequisite, Special Surgery 32. Second term, lecture. Prerequisite, first term's laboratory. Assistant Professor ASMUS.

37. **Horseshoeing Short Course.** Four weeks' training for farmers and farm boys who wish to gain sufficient knowledge to shoe their own horses. One course during the month of November, and one during the month of January. Assistant Professor ASMUS.

VETERINARY MEDICINE AND OBSTETRICS

Professor, D. H. UDALL; Assistant Professor, M. G. FINCHER; Instructors, W. J. GIBBONS and S. D. JOHNSON.

The course in veterinary medicine, principles and practice, extends over the last two years of undergraduate study, the subjects of the second year being distinct from, and complementary to, those of the first. It includes the constitutional dietetic and toxic affections and the non-infectious maladies of the different systems of organs—digestive, respiratory, circulatory, urinary, cutaneous, and visual—of the various genera of domestic animals. The wide scope of the course, covering as it does the varied manifestations of a given morbid condition, the complications in each, caused by constitution, environment, utilization,

microbian infection, etc., and the application of prophylactic and therapeutic measures to all in turn, give a breadth and soundness of view which should render the student a reliable and skillful veterinary pathologist, physician, and sanitarian.

The course on contagious diseases deals with the general subject of infection and contagion; the microbiology of diseases in which micro-organisms constitute the essential factor; the accessory and restrictive environment, such as condition of soil, water, air, climate, culture, season, weather, animal industries, trade, migration, war, consumption of animal food, etc.; the diagnosis of the different plagues; the various methods of suppression by the individual owner, the municipality, town, county, state, or nation; and the exclusion of pestilences from a country. The transmissibility of each contagious disease to different genera of animals, from animal to man, and from man to animal, together with the susceptibility of each genus to immunization and the best known means of securing this, receive due attention.

Enzoötic diseases are carefully studied, and the various causative factors in location, environment, and in constitutional or racial susceptibility are fully dealt with, as subsidiary to prevention and treatment.

Our proximity to the city and to a well-stocked agricultural country tends to secure a greater variety of patients than can be had in a large city remote from country flocks and herds. Students take charge of individual cases in the hospital and ambulatory clinic and keep a record of each with treatment. The course also includes instruction in diagnosis. Through the medium of laboratory guides students are expected to acquire a methodical system of examination by repeated systematic observations on both normal and diseased animals. The work involves the use of various special diagnostic methods taught in other laboratories of the College, such as examination of the blood, urine, and feces, the application of sero-diagnostic methods, etc.

AMBULATORY CLINIC

An ambulatory or out-clinic is conducted for the purpose of giving instruction to students under conditions identical with those encountered in private practice. Proper conveyances and equipment are provided and an opportunity offered for observing such diseased farm and dairy animals as cannot be entered in the clinics of the College. The student thereby not only has an opportunity to see cases not readily brought to the college clinic, but also assists in handling cases in the same manner and under the same environment as is required of the country practitioner. As the vicinity of Ithaca is largely devoted to dairying, valuable clinical material relating to obstetrics and the diseases of dairy cows is available and is extensively used.

50. **Veterinary Medicine, Principles and Practice.** Lectures or recitations. Third year. First term, T Th 8; second term, M W F 8.

50a. **Veterinary Medicine, Principles and Practice.** Fourth year. First term, M W F 8; second term, T Th 8.

51. **Physical Diagnosis.** Two recitations or lectures a week. Second year, second term. Credit two hours. W Th 8.

53. **Ambulatory Clinic.** Throughout the senior year. Credit two hours each term. One hour a week is devoted to a review and discussion of the cases treated in the clinic. Recitations, first term, F 9; second term, T 9.

54. **Obstetrics, including Diseases of Genital Organs of Cattle, Sterility, Abortion.** Four lectures or recitations a week in the first term of the fourth year. M W 9, T Th 8. It is aimed in this course to give a general survey of the subject of obstetrics, and to include a thorough consideration of the diseases of the genital organs, including sterility and abortion. Obstetric exercises are given by appointment throughout the year. For this work a specially constructed

apparatus or "phantom" is employed in such a manner as to closely simulate actual working conditions in obstetrical practice. Newborn calves are procured, killed, and so placed in the apparatus that the various corrections of position and embryotomic operations may be carried out by the student under the direction of the instructor in charge.

Clinical instruction in obstetrics is given in Course 53.

55. Ophthalmology. One lecture or recitation a week. Third year, second term. T 8.

56. Hygiene. One lecture or recitation a week. Fourth year, second term. F 8.

Special Lectures. During the year, lectures on special topics in medicine will be given by eminent practitioners and teachers of veterinary medicine. These will form a part of the instruction in this department.

Opportunities for Research. The activities of the department, aside from the instruction work, are devoted to research in connection with diseases of cattle, including the phenomena of sterility and abortion in animals of breeding age, and of diseases of newborn calves having intimate relation to the diseases of the genital organs of cows. Opportunity is afforded for participation in the investigations by graduate students having acceptable preparation.

Clinics and Laboratory Practice. Fourth year. Three hours credit each term.

In the clinical and pathological exercises, it is proposed to assign the student a list of subjects for study without definite schedule. He will be required to make the clinical or other examinations, treat the patient, and present a description of the disease, including recommendations for its control or cure. Credit will be given for each subject so studied whenever the student is able to demonstrate his ability with respect to examination, technic, literature, and deduction.

ENGLISH

57. Literature, Composition and Public Speaking. Throughout the year. Credit two hours a term. For seniors only. Mr. HUGHES. Hours first term, W 12, S 9; second term, T Th 11. The fundamentals of composition; constant practice in writing supplemented by the reading and study of representative works in English literature. Instruction and practice in public speaking.

PATHOLOGY AND BACTERIOLOGY

Professor, W. A. HAGAN; Assistant Professors, PETER OLAFSON, J. M. HENDRICKSON (at Farmingdale), E. L. BRUNETT, A. ZEISSIG; Instructors, D. W. BAKER, C. C. ELLIS, K. F. HILBERT (at Farmingdale), C. W. BARBER, D. W. BRUNER; Student Assistants, W. M. EVANS, P. P. LEVINE.

The laboratories of the department are well equipped with modern apparatus providing opportunity for advanced work, for those students who are properly prepared, in pathological anatomy, autopsy work, pathogenic bacteriology, immunity, and parasitology. The department operates two diagnostic laboratories, one for poultry diseases and the other for general diagnostic work to which a great deal of pathological material and blood samples for serological testing come from all parts of the state. These laboratories furnish an abundance of fresh materials for teaching work and for research in animal diseases. The clinics and the routine autopsies also furnish material.

The following courses are required in the curriculum of the Veterinary College and are given particularly for veterinary students. When there is room for them, properly prepared students of other colleges will be admitted, but permission to register must be obtained in each case.

40. General Pathology. Second year, second term. Credit two hours. Prerequisite, course 6 (Microscopy and Histology) or equivalent. In addition it is desirable that the student shall have had at least one year's work in anatomy and physiology. In special cases for students who are majoring in biology and expect to take no further work in pathology, these prerequisites may be waived in part. When this is done, the course will not be accepted as a prerequisite for other courses. Recitations, M 9, W 8. Dr. OLAFSON.

40a. General Pathology Laboratory. Credit two hours. Course 40 must be taken simultaneously or have been completed previously. Section I, W 11-1, F 10-1; Section II, T 10-1, Th 11-1. Laboratory fee, \$5. Dr. OLAFSON.

41. Special Pathology. Third year, first term. Credit, two hours. Prerequisite, course 40a. Lectures M F 8. Dr. OLAFSON.

41a. Special Pathology Laboratory. Third year, first term. Credit two hours. Course 41 must be taken simultaneously or have been completed previously. Section I, T 10-1, S 8-10:30. Section II, Th 10-1, S 10:30-1. Laboratory fee, \$5. Dr. OLAFSON.

42. Pathology of Infectious Diseases. Fourth year, first term. Credit two hours. Prerequisites, courses 41 and 49. Recitations, M F 12. Dr. HAGAN.

43. General Bacteriology. Second year, first term. Credit two hours. Lectures and recitations, W F 8. Dr. HAGAN.

43a. General Bacteriology Laboratory. First term. Credit two hours. Open to students who have taken or are taking course 43 or its equivalent. Section I, M 8-10, F 9-12; Section II, W 11-1, Th 10-1. Laboratory fee, \$10. Drs. HAGAN and ZEISSIG.

44. Parasites. Third year, first term. Credit two hours. Prerequisite, Zoology 1a. Lecture, F 11; recitation W 8. Dr. BAKER.

44a. Parasites Laboratory. Credit one hour. Section I, M 10-1; Section II, S 8-10:30. Laboratory fee, \$2. Dr. BAKER.

46. Diseases of Poultry. Fourth year, second term. Credit two hours. Prerequisite, course 49a. T 10, W 8. Dr. BRUNETT.

47. Autopsies. Throughout the third and fourth years. Credit one hour in second term of 4th year. Drs. OLAFSON and BRUNETT.

48. Food Hygiene (Meat Inspection). Fourth year, second term. Credit one hour. Prerequisites, courses 41 and 49. Lecture, Th 9. Dr. ZEISSIG.

49. Pathogenic Bacteriology and Immunity. Third year, second term. Credit two hours. Prerequisite, course 43 or its equivalent. Lectures, W F 9. Dr. HAGAN.

49a. Pathogenic Bacteriology Laboratory. Third year, second term. Credit three hours. Prerequisites, courses 40a and 43a. Students must also have completed or take simultaneously course 49. Section I, T 10-1, F 10-1, S 8-10. Section II, W 11-1, Th 10-1, S 10-1. Laboratory fee, \$10. Dr. HAGAN.

NOTE: The following courses are not required in the curriculum of the Veterinary College. Course 149 (formerly 49b) is given to accompany Course 49, for students of other colleges who have had no work in pathological anatomy. The other courses are given for graduate and advanced undergraduate students. Permission to register must be obtained by all students electing these courses.

149. Pathogenic Bacteriology Laboratory. Credit two hours. Students must have completed, or take simultaneously, course 49. T 1:40-4, Th 1:40-4. Laboratory fee, \$10. Dr. ZEISSIG.

150. Laboratory Methods of Diagnosis. Credit one to three hours. Prerequisites, courses 41a, and 49a or 149. Hours by appointment. Dr. BAKER.

Instruction and practice in the application of bacteriological, pathological and serological methods for the diagnosis of disease.

151. Immunological Methods. First term. Credit two hours. Prerequisites, courses 49, and 49a or 149. Class limited to twelve students. Two laboratory periods on consecutive days. Hours to be arranged. Laboratory fee, \$10. Dr. ZEISSIG.

152. Advanced Work in Pathology and Bacteriology. First and second terms. Credit one to three hours. Hours to be arranged. Laboratory fee, \$2 per credit hour. Drs. HAGAN and OLAFSON.

Properly prepared students may undertake special problems or receive special assignments.

153. Hematology. Second term. Credit one hour. One lecture and laboratory session a week, the time to be arranged. Laboratory fee, \$2. Dr. OLAFSON.

154. Seminar. First and second terms. Hours to be arranged. No credit. Required of all graduate students. Undergraduate students are admitted.

Attention is called to the fact that in the new tentative schedule prepared for students matriculating in the College under the advanced entrance requirements effective at the beginning of the 1932-33 academic year, the sequence of some of the courses has been changed, and it is likely that the hours will also be different. There will be no change in hours, however, during the 1932-33 year.

MILITARY SCIENCE AND TACTICS

All men in the first two years of undergraduate courses having had no military instruction at Cornell, except aliens and those who are physically disqualified, as well as those holding a baccalaureate degree of an approved college, are required to take, in addition to the scholastic requirements for the degree, three hours a week in the Department of Military Science and Tactics.

All women in the first two years of undergraduate courses and all men of those two classes, named above, who are excused from military drill must take, in addition to the scholastic requirements for the degree, three hours a week in the Department of Physical Training.

The instruction in Military Science and Tactics is divided into two courses, the Basic and the Advanced. The Basic Course is given in the first and second years of Cornell residence and requires an attendance of three hours a week. The Advanced Course is elected following the completion of the basic course and requires an attendance of three hours a week.

First year. Drill in the school of the soldier, in the school of the squad, the platoon, the company and battalion, in ceremonies and in marching; care and handling of arms and equipment; small arms firing; interior guard duty; minor tactics; morale; organization and mission of the R. O. T. C.; military policy of the United States; military organization which includes military forces of the United States; administrative and tactical organization of the United States Army and organization of the Medical Department; history of military medicine; customs and courtesies of the service; discipline and leadership; military law; military hygiene and first aid; map reading.

Second Year. Organization; military courtesy and discipline; drill, care and handling of equipment; small arms firing; minor tactics; morale; physical training; organization of the theatre of war; tactics of the separate arms and employment of combined arms; tactical employment of medical units; hospitalization and sanitation; medical supply; equitation.

Third Year. Public animals; prevention and control of disease; remount depots, animal management; meat and dairy hygiene; sanitation.

Fourth Year. Hospitals and hospitalization; veterinary sanitary regulations; care of animals on the march and in the field; miscellaneous medico-military subjects; equitation.

The Advanced Course is elective, and students who have satisfactorily completed the Basic Course may enroll for the Advanced Course. Credit may be applied toward completion of the Basic Course, when applying for admission to the Advanced Course, for training received at an educational institution under an officer of the Army detailed as Professor of Military Science and Tactics. Military training will not be credited to a student when such training was received by him before reaching the age of 14 years.

Students in the Basic Course receive no pay or allowances, but students who enter the Advanced Course are entitled to receive payment of commutation of subsistence for two academic years plus one summer less the camp period, at a per diem rate prescribed annually by the Secretary of War.

In addition to the work outlined above, each student in the advanced course is required to attend one Veterinary R. O. T. C. camp during his course. This camp is now held at Carlisle Barracks, Pa. It begins as early in the summer as possible after the closing of the veterinary schools and lasts for six weeks. At camp the tactical and field duties of veterinary service are emphasized and demonstrated. Each student receives his expenses to and from camp, and pay at the rate of \$21 a month for the time spent there, thus getting a vacation which is pleasant and profitable.

While the special work of this department is of necessity military in its nature, it is also professional. A large part of the work will be found to be applicable to civil practice, so the graduate who may never be called to active duty will find value in the time given to the training.

The purpose of this training is to qualify students for positions of leadership in times of national emergency with the ultimate object of developing selected students for appointment as officers in the Veterinary Officers Reserve Corps. All men who complete the course satisfactorily are commissioned in the Veterinary Officers Reserve Corps. Vacancies in the Regular Army, when they occur, are filled by successful applicants of the Officers Reserve Corps. It is obvious that those Veterinarians who have completed successfully the R. O. T. C. advanced course and who are seeking a commission in the Regular Army would be better qualified than those who have not had such training.

HYGIENE AND PREVENTIVE MEDICINE

All students in the first year of undergraduate courses are required to attend lecture-recitations on Hygiene and Preventive Medicine given once a week throughout the college year.

1. **Hygiene (Required of all Freshmen).** First term. One lecture-recitation each week with preliminary examination and final. The use of a textbook is required.

Registration and assignment to section: *for men*, at the Old Armory; *for women*, at the Sage Gymnasium.

Sections for men: Monday 9, 10, 11, 12; Tuesday 9, 11, 12; Wednesday 8, 9, 10, 11, 12; Thursday 8, 9, 11, 12; Friday 8, 11; Saturday 8, 9, 10, 12.

Sections for women: Monday 8; Tuesday 8, 10; Wednesday 2; Thursday 10, 2; Friday 9, 2; Saturday 11.

2. **Hygiene (Required of all Freshmen).** Second term. One lecture-recitation each week with preliminary examination and final. The use of a textbook is required.

Registration and assignment to section: *for men*, at the Old Armory; *for women*, at the Sage Gymnasium.

Sections for men: Monday 9, 10, 11, 12; Tuesday 9, 11, 12; Wednesday 8, 9, 11, 12; Thursday 9, 11, 12; Friday 8, 11, 12; Saturday 8, 9, 10, 12.

Sections for women: Monday 8; Tuesday 8, 10; Wednesday 2; Thursday 10, 2; Friday 9, 2; Saturday 11.

APPENDIX A

OPENINGS FOR VETERINARIANS IN AMERICA

1. In the Medical Department of the United States Army there is a demand for a limited number of veterinarians. Beginning with the rank of Second Lieutenant, the veterinarian earns promotion after certain periods of service and examination. The initial salary is \$1,700 and quarters.

2. In the Bureau of Animal Industry, United States Department of Agriculture, a number of veterinarians are employed professionally as livestock agents and inspectors, inspectors and superintendents of quarantine stations, and investigators in bacteriology and pathology. By an Act of Congress, the federal veterinary inspectors must be graduates of a veterinary college maintaining the requirements of the Bureau. Applicants for the position must take a civil service examination. The initial salary is \$1,860.

3. In the different States there are appointive positions as State Veterinarian, and in some States as County or District Veterinarian. These are desirable positions and involve considerable responsibility.

4. The time is not far distant when each municipality must have its veterinary inspector of markets, abattoirs, and butcher meat, as well as of milk and other dairy products.

5. Veterinarians are needed to serve on tuberculosis and other commissions in order that the work in this field may be conducted intelligently and successfully along scientific lines. The control of disease depends largely upon those specially trained in the anatomy, physiology, hygiene, and pathology of the lower animals.

6. Educators in comparative pathology are wanted in agricultural and veterinary colleges, and experiment stations, and must soon be in demand by every medical college that aims to keep abreast of the times.

7. There are always openings in the wide field of private veterinary practice. With a ratio of three farm animals to every human being, and with less than one veterinarian to every thirteen doctors of medicine for man, the balance of opportunity seems to be largely in favor of the veterinary practice, and this preponderance must steadily increase with the recovery of stock values and the increase in the number of farm animals.

APPENDIX B

LEGAL REQUIREMENTS FOR LICENSE TO PRACTICE VETERINARY MEDICINE AND SURGERY IN THE STATE OF NEW YORK

PUBLIC HEALTH LAW

CONSOLIDATED LAWS OF NEW YORK, CHAPTER 45, ARTICLE 10

§1326. *Qualifications for practice.* No person shall practice veterinary medicine after July first, eighteen hundred and ninety-five, unless previously registered and legally authorized, unless licensed by the department and registered as required by this article; nor shall any person practice veterinary medicine who has ever been convicted of a felony by any court, or whose authority to practice is suspended or revoked by the department on recommendation of the state board. Any person, a citizen of the United States and of the state of New York, who matriculated in a reputable veterinary medical school prior to January first, eighteen hundred and ninety-five, and who received his degree therefrom prior to January first, eighteen hundred and ninety-seven, or any person who has engaged in the practice of veterinary medicine prior to the year eighteen hundred

and eighty-six, shall be admitted to the veterinary examination for license to practice, as conducted by the department.

§1331. *Admission to examination.* The department shall admit to examination any candidate who pays a fee of ten dollars and submits satisfactory evidence, verified by oath if required, that he (first) is more than twenty-one years of age; (second) is of good moral character; (third) has the general education required in all cases after July first, eighteen hundred and ninety-seven, preliminary to receiving a degree in veterinary medicine; (fourth) has studied veterinary medicine not less than four full years, including four satisfactory courses in four different academic years, in a veterinary medical school registered as maintaining at the time a satisfactory standard; (fifth) has received a degree as veterinarian from some registered veterinary medical school. The degree in veterinary medicine shall not be conferred in this state before the candidate has filed with the institution conferring it, the certificate of the department that before beginning the first annual veterinary course counted toward the degree he had earned a veterinary medical student qualifying certificate in accordance with the rules of the department, the minimum requirement for which, for matriculates after January one, nineteen hundred and five, shall be the successful completion of an approved four-year high school course or its equivalent. The department may accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice in veterinary medicine, provided that such substitution be specified in the license. The department may admit to the examination graduates of duly incorporated veterinary schools, who matriculated in such schools prior to nineteen hundred and fifteen, provided such graduates are now and have been for at least five years, residents of this state.

§1333. *Examinations and reports.* Examination for license shall be given in at least four convenient places in this state and not less than twice annually, in accordance with the department rules, and shall be exclusively in writing and in English. Each examination shall be conducted by a department examiner, who shall not be one of the veterinary medical examiners. At the close of each examination, the department examiner in charge shall deliver the questions and answer papers to the board, or to its duly authorized committee, and such board, without unnecessary delay, shall examine and mark the answers and transmit to the department an official report, signed by its president and secretary, stating the standing of each candidate in each branch, his general average and whether the board recommends that a license be granted. Such report shall include the questions and answers and shall be filed in the public records of the department. If a candidate fails in his first examination, he may have a second examination without fee.

§1334. *Licenses.* On receiving from the state board an official report that an applicant has successfully passed the examination and is recommended for license, the department shall issue to him, if in their judgment he is duly qualified therefor, a license to practice veterinary medicine. Every license shall be issued by the department under seal and shall be signed by each acting veterinary medical examiner of the board and by the officer of the department who approved the credential which admitted the candidate to examination, and shall state that the licensee has given satisfactory evidence of fitness as to age, character, preliminary and veterinary medical education and all other matters required by law, and that after full examination he has been found duly qualified to practise. Applicants examined and licensed before July first, eighteen hundred and ninety-seven, by other state examining boards registered by the regents as maintaining standards not lower than those provided by this article, and applicants who matriculated in a New York state veterinary medical school before July first, eighteen hundred and ninety-six, and who received the veterinarian degree from a registered veterinary medical school before July first, eighteen hundred and ninety-seven, may without further examination, on payment of ten dollars to the

department, and on submitting such evidence as they may require, receive from it an endorsement of their licenses or diplomas conferring all rights and privileges of a department license issued after examination. And any veterinary practitioner in any county of this state who was registered in the county clerk's office between July first, eighteen hundred and ninety-five, and July first, nineteen hundred and fifteen, or any commissioned veterinary medical officer heretofore serving in the United States army or an allied army in the world war, or so commissioned and honorably discharged therefrom, and who was a citizen and resident of this state at the time of entering such service or at the time this section as hereby amended takes effect, or becomes a resident within one year thereafter, may, upon satisfactory evidence of such registration or discharge and of qualification to practise either with or without examination as the department may direct on the recommendation of the board of veterinary medical examiners, and upon written application, receive from the department a certificate of facts which may be registered in the office of the county clerk where such practitioner was registered, or where such discharged commissioned officer intends to practice, and the registration of such certificate shall constitute a lawful registration under the provisions of this article and shall operate to confer all the rights and privileges of a department license issued after examination. Before any license is issued it shall be numbered and recorded in a book kept in the office of the department and its number shall be noted in the license. This record shall be open to public inspection, and in all legal proceedings shall have the same weight as evidence that is given to a record of conveyance of land.

§1335. *Registry.* Every license to practice veterinary medicine shall, before the licensee begins practice thereunder, be registered in a book to be known as the "Veterinary Medical Register," which shall be provided by and kept in the clerk's office of the county where such practice is to be carried on, with name, residence, place and date of birth, and source, number and date of his license to practice. Before registering, each licensee shall file, to be kept in a bound volume in the county clerk's office an affidavit of the above facts, and also that he is the person named in such license, and had, before receiving the same complied with all requisites as to attendance, terms, and amount of study and examination required by law and the rules of the university as preliminary to the conferment thereof, and no money was paid for such license, except the regular fees, paid by all applicants therefor; that no fraud, misrepresentation, or mistake in any material regard was employed by any one or incurred in order that such license should be conferred, and shall annually in the month of January report, under oath, to the state board of examiners, any facts required by the board, shall pay to the department a registration fee of one dollar, and shall receive a certificate of registration that must be conspicuously displayed together with the original certificate of registration. Every license, or if lost, a copy thereof, legally certified so as to be admissible as evidence, or a duly attested transcript of the record of its conferment, shall, before registering, be exhibited to the county clerk, who, only in case it was issued or indorsed as a license under seal by the department, shall indorse or stamp on it the date and his name preceded by the words, "Registered as authority to practice veterinary medicine, in the clerk's office of.....county." The clerk shall thereupon give to every veterinarian so registered a transcript of the entries in the register, with a certificate under seal that he has filed the prescribed affidavit. The licensee shall pay to the county clerk a total fee of one dollar for registration, affidavit and certificate.

CATALOGUE OF STUDENTS

1931-32

GRADUATE STUDENTS

- | | |
|---|---|
| Baker, Donald W., <i>Ithaca.</i> | Gates, W. T., <i>Millheim, Pa.</i> |
| Barber, C. W., <i>Blanca, Colorado.</i> | Gonzaga, A. C., <i>Tanauan, Bantagas, P. I.</i> |
| Bruner, Dorsey, <i>Paxtonville, Pa.</i> | Levine, Pincus P., <i>New York City.</i> |
| Cameron, Hugh S., <i>Ithaca.</i> | Patterson, F. D., <i>Tuskegee, Alabama.</i> |
| Crane, D. B., <i>Mt. Kisco.</i> | Sampson, Jesse, <i>Ithaca.</i> |
| Ellis, Carlton C., <i>Ithaca.</i> | |
| Errington, B. J., <i>Ithaca.</i> | |

SENIORS, CLASS OF 1932

- | | |
|---|---|
| Allen, Raymond Ripley, <i>Leominster, Mass.</i> | McCarthy, John McHool, <i>Constable.</i> |
| Baum, Martin David, <i>New York City.</i> | McDonald, Harold Francis, <i>Cortland.</i> |
| Berger, Samuel, <i>New York City.</i> | Metzger, Robert William, <i>Rochester.</i> |
| Betzold, Curtis William, <i>Sanger, California.</i> | Miller, Henry Rohr, <i>Mamaroneck.</i> |
| Blostein, Morris Elmer, <i>Ithaca.</i> | Miller, Perry Sylvester, <i>Ghent.</i> |
| Boyd, Walter Alan, <i>Ithaca.</i> | Minster, John Carlton, <i>LeRoy.</i> |
| Combs, Perry Thomas, <i>Batavia.</i> | Parker, George Thatcher, <i>Middletown, New Jersey.</i> |
| Conboy, Joseph Raphael, <i>New York City.</i> | Payne, Charles Harry, <i>Edmeston.</i> |
| Denton, Lewis Baxter, <i>Caribou, Maine.</i> | Pieper, Niels William, <i>Newington Junction, Conn.</i> |
| Eldred, Arthur Charles, <i>Bombay.</i> | Presler, Donald James, <i>Prattsburg.</i> |
| Evans, William Morris, <i>Waterville.</i> | Purmell, Louis Charles, <i>New York City.</i> |
| Ferrell, John Joseph, <i>Westport.</i> | Ranney, Albert Fred, <i>Putney, Vermont.</i> |
| Fletcher, Charles Edward, <i>New York City.</i> | Sachs, Lloyd Herman, <i>Mill River, Mass.</i> |
| Fuller, Howard K., <i>Bombay.</i> | Sadler, Edward G., jr., <i>Pine Plains.</i> |
| Gaydosh, Louis, <i>West Danby.</i> | Smead, Harold Louis, <i>Greenfield, Mass.</i> |
| Gifford, Ralph William, <i>Ithaca.</i> | Sternfels, Mark, <i>New York City.</i> |
| Gingras, George E., <i>Gouverneur.</i> | Stevenson, John Chester, <i>Westbury.</i> |
| Howard, James Henry, <i>Watkins Glen.</i> | Sweet, James Donald, <i>Chateaugay.</i> |
| Howell, Leonard Lawrence, <i>Dansville.</i> | Walker, David Augustine, <i>Wolcott, Vermont.</i> |
| Hunter, Hugh Willis, <i>Cato.</i> | White, Edward Alexander, <i>Arena.</i> |
| Judson, Burton Fuller, <i>Middletown.</i> | |
| Lange, Chester Jay, <i>Brooklyn.</i> | |
| Levine, Pincus Philip, <i>New York City.</i> | |

JUNIORS, CLASS OF 1933

- | | |
|---|--|
| Bean, Reynold L., <i>Silver Creek.</i> | George, Edward Clark, <i>Morris.</i> |
| Brown, Harold LaRue, <i>Greene.</i> | Goldhaft, Helen Baylin, <i>Vineland, New Jersey.</i> |
| Bushnell, Fred Forbes, <i>South Manchester, Conn.</i> | Hollenbeck, David I., <i>Candor.</i> |
| Carragher, Fay Beckstead, <i>Lisbon.</i> | Hoyt, Frederick James, <i>Greene.</i> |
| Danks, Arthur Gordon, <i>Allamuchy, New Jersey.</i> | Johanson, Fred Ossian, <i>Newfield.</i> |
| Dunnet, Philip Laird, <i>Rockville Center.</i> | LaFrance, William Joseph, <i>Ithaca.</i> |
| Fallon, Arthur James, <i>Constable.</i> | Lawrence, Michael Paul, <i>New York City.</i> |
| | Liner, Nelson R., <i>Amenia.</i> |

JUNIOR CLASS—*Continued*

- Morkis, Edward Stanley, *Lawrence, Mass.*
 Murray, Clifford Philemon, *Glens Falls.*
 Olmstead, Richard Calvin, *Catskill.*
 O'Neil, Henry Elmer, *Westport.*
 Schutz, Frederick William, *Arkport.*
 Sears, Richard Martin, *Baldwinsville.*
 Shapiro, Morris Harry, *New York City.*
 Speer, Webster Eugene, *Canton.*
 Wilkes, Paul Herbert Archibald, *Cato.*
 Wohnsiedler, Herbert, *Carthage.*

SOPHOMORES, CLASS OF 1934

- Babson, Osman, *Gloucester, Mass.*
 Baker, George A., *Glens Falls.*
 Bancroft, Franklin Edwin, *Gouverneur.*
 Barnes, Carl George, *Niagara Falls.*
 Barnes, Lloyd Delos, *Niagara Falls.*
 Bauer, Walter Oliver, *Buffalo.*
 Berninger, Harold John, *Ghent.*
 Bigert, Edward J. J., *Florida.*
 Boyink, Gordon Darrow, *Irondequoit.*
 Cain, Harold Driscoll, *Herring.*
 Calldemeier, Huston Adrian, *Louisville, Kentucky.*
 Cerosaletti, Mario Joseph, *Laurens.*
 Chambers, Clive Burton, *Hewelton.*
 Davis, Kenneth William, *West Winfield.*
 Green, Charles Frederick, jr., *Syracuse.*
 Hallett, Charles Sherwood, *Riverhead.*
 Higgins, Charles Callen, *Ithaca.*
 Higgins, William Young, *Flemington, New Jersey.*
 Holden, Edgar Wendell, *Brooklyn.*
 Holt, Alfred Lawrence, *Huntington.*
 Hughes, Trevor Hugh, *Utica.*
 Hunsberger, Ray Swartley, *Middletown.*
 Johnson, Morris Monroe, *Morris.*
 Jones, Erwin Haugh, *Clyde.*
 Kurkowski, Stanley M., *Southold.*
 Laughlin, Bernard James, *Akron.*
 Leonard, Ellis Pierson, *Ithaca.*
 Libra, Joseph John, *Fulton.*
 Lormore, Robert Edward, *Sidney Center.*
 McCarthy, John Francis, *Cortland.*
 McChesney, Gerald Harry, *Cortland.*
 McClelland, Robert Baker, *Kenmore.*
 Meisels, Raphael, *Hunters.*
 Merenda, Joseph John, *Glenwood.*
 Milici, Rosario Francis, *Brooklyn.*
 Miller, Harold Arthur, *Otisville.*
 Miller, Malcolm Eugene, *Towanda, Pa.*
 Mueller, Robert August, *Pasadena, California.*
 Murch, Ralph Gordon, *Holliston, Mass.*
 Nolan, Timothy Francis, *Ithaca.*
 Perella, Dorwin Herman, *Johnson City.*
 Pierce, Raymond John, *Westport.*
 Putnam, Karl Edward, *Prattsburg.*
 Ranney, Clarence LeRay, *Santa Ana, California.*
 Richardson, Frederick Henry, *Ogdensburg.*
 Rogers, Arthur Bartlett, *West Laurens.*
 Sachs, Hyman, *Richmond Hill.*
 Seely, Leigh Harris, *Walton.*
 Serling, Maurice Ezra, *Mamaroneck.*
 Smith, Howard Bower, *Hammondsport.*
 Steffen, Rudolph Julius, *Horseheads.*
 Stevenson, Daniel Stevens, *Camden, New Jersey.*
 Terry, John Wright, *Walton.*
 Treadwell, Morton Frederick, *Jefferson.*
 Walters, Harold Bower, *Newark.*
 Watt, Malcolm Raeburn, *Port Washington.*
 Wilson, Louis, *Binghamton.*
 Witter, Willis Francis, *Brookfield.*
 Zaitz, David I., *Hightstown, New Jersey.*

FRESHMEN, CLASS OF 1935

- Alberga, Ansell, *Round Top.*
 Badger, George William, *Burke.*
 Barsky, David, *Buffalo.*
 Benedict, Walter Lucian, *Manlius.*
 Beveridge, Elsworth Emerson, *Salem.*
 Bixby, Donald Orton, *Norfolk.*
 Boardman, William, *Sheffield, Mass.*
 Brew, Robert Frank, *New York City.*
 Brown, Robert F., *Bangor.*
 Brown, Roswell Leo, *Greene.*

- Buell, Hector John, *Malone*.
 Buell, Herbert James, *Constable*.
 Burch, George E., *Granville*.
 Carl, Walter Tederoff, *Bridgeton, New Jersey*.
 Chellis, Tracy Herman, *Concord, N. H.*
 Close, Philip Cashman, *Earlville*.
 Cross, Ruth, *Cleveland, Ohio*.
 Curtin, Charles J., *Livonia*.
 Davis, Kenneth Leon, *Otego*.
 Dickson, Howard Strangeway, *Delhi*.
 Donahue, Michael Joseph, *Newburgh*.
 Ebertz, Charles Dexter, *Newark*.
 Edmiston, Hamilton M., *Easton, Md.*
 Eggert, William Emerick, jr., *Ridge-wood, New Jersey*.
 Fort, Sidney von der Werken, jr., *Mechanicville*.
 Fortune, Richard LeRoy, *Gouverneur*.
 Foster, Edwin Nelson, *Far Rockaway*.
 Gilyard, Richard Taylor, *Waterbury, Conn.*
 Glass, Harry Manasseh, *New York City*.
 Goldhaft, Tevis Mirsky, *Vineland, New Jersey*.
 Goldwasser, Harry Isaac, *New York City*.
 Groat, David, *Brooklyn*.
 Grossman, Henry Earle, *Brooklyn*.
 Hennessee, Doyle Winston, *Dublin, Texas*.
 Herman, Samuel Eugene, *South Fallsburg*.
 Hick, Gerald Francis, *Jeffersonville*.
 Hickey, Gerald Frederick, *Cattaraugus*.
 Higby, Willard Charles, *Constableville*.
 Hoppenstedt, Clifford Henry, *Pine Bush*.
 Huber, Samuel Flickinger, jr., *Bridgeton, New Jersey*.
 Hutt, Samuel, *Brooklyn*.
 Jabbs, Theodore Edward, *New York City*.
 Luther, William Frederick, *Springwater*.
 Markham, Fred'k DeWitt Clinton, *Port Leyden*.
 Meredith, George H., *New York City*.
 Metz, Clark A., *Clarence Center*.
 Mindell, Jack, *Schenectady*.
 Moore, Howard David, *Hammond*.
 North, Arthur Fillmore, jr., *Brooklyn*.
 Ovios, Louis, *Brooklyn*.
 Penny, Stanley George, *Brooklyn*.
 Pulver, Donald William, *Penn Yan*.
 Quinn, Donald Harry, *Jeffersonville*.
 Reese, William Clifford, *Earlville*.
 Richman, Robert, *Albany*.
 Rogoff, Edward Abraham, *Richmond Hill*.
 Rudman, Henry, *Brooklyn*.
 Sather, Raymond Homer, *Brooklyn*.
 Schafer, Frederick Neice, *Sauquoit*.
 Schoenfeld, Theodore Mark, *New York City*.
 Seagers, William J., *Westfield, Pa.*
 Shindelman, Max M., *Brooklyn*.
 Stieber, Sam, *New York City*.
 Stone, Richard Lamport, *Trumansburg*.
 Stone, Winfield Scott, *Binghamton*.
 Sweatman, John Chester, *Cattaraugus*.
 Tarlow, Emanuel, *New York City*.
 Tegg, Montgomery Albert, *Rochester*.
 Teich, Esther, *Huntington*.
 Thomson, Frederic C., *Holland Patent*.
 Tice, Albert Kenneth, *Cincinnati*.
 Tierney, William Francis, *Cazenovia*.
 Trudel, Ferdinand Gabriel, *St. Stanislaus, Quebec, Canada*.
 Trum, Bernard Francis, *Natick, Mass.*
 Van Bracklin, Clifford George, *Alexandria Bay*.
 Versluis, Hendrik, *New York City*.
 Ward, John Arthur, *Hollis*.
 Weaver, Glen J., *Clarence*.
 Weight, Leslie Askew, *Wailuku, Nani. Hawaii*.
 Weisheit, Henry Carl, *Glenmont*.
 Wing, Gaylaird Rowe, *Clinton Corners*.
 Zimmerman, Irving, *New York City*.

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